4A100

RMRS Rocky Mountain Remediation Services, L.L.C.
. . . protecting the environment

Rocky Flats Environmental Technology Site
P.O. Box 464
Golden, Colorado 80402-0464
Phone: (303) 966-2678
Fax: (303) 966-8244

September 30, 1996 96-RM-WM-00068-TEN

P. R. Fletcher
Tenera
Industrial Engineering
RCRA Closures
Bldg. 441

SNM CONSOLIDATION RELATED TO BUILDING 771 - CEB-117-96

Action: None

Transmitted herewith is the deliverable under Work Package 20110, SNM Consolidation related to Building 771.

At your request I have completed walkdown of a majority of the main floor of Building 771 to identify areas requiring enhanced attention. My findings are attached. Please be advised that building layouts are not included and can be obtained upon request. I assume that this information will be directed to whomever would benefit from it. Please be advised that this is a "snapshot in time" and will change with time.

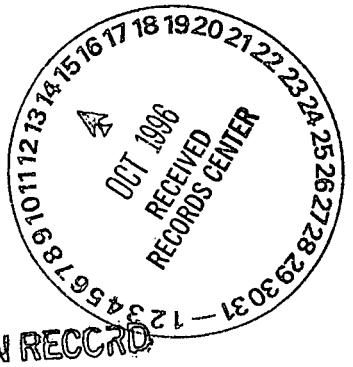
If you have any questions, or if the above information is insufficient for your purposes, please contact me at extension 4008 or digital pager 1306.

C.E. Baldwin
Team Leader
Technical Applications

CEB:mn

Attachments:
As Stated

cc:
D.L. Cox - SSOC (Bldg. 771)
J. G. Hilbig - SSOC (Bldg. 771)
L. F. Johnson - RMRS (Bldg. T893A) w/o Attach.
F. W. Lamb - SSOC (Bldg. 750)
J. L.. Pastore - SSOC (Bldg. 441)
C.H. Wolfe - SSOC (Bldg. 771)
RMRS Corres. Control (Bldg. T130F)



ADMIN RECORD

1/118

Rev. 1.5, 9/30/96

BUILDING 771

Introduction

Please understand that this walkdown is a "snapshot in time" and will change as cleanup continues and drums and materials are removed from each room. Each room has been categorized according to plutonium holdup risk. This categorization is subjective, however, and reflects the views of the author. The categories follow:

Category A - High risk of holdup
Category B - Moderate risk of holdup
Category C - Low risk of holdup
Category D - No holdup suspected (Note: Contamination is not considered holdup)

It should be noted that the walkdown was done visually and external to the gloveboxes. No activity was done in the gloves to examine the interior of containers, consequently, there may be some items missed which could not be observed due to poor lighting and obstructed views. All measurements are close approximations since they were taken with a tape measure and not from actual drawings.

Exhaust lines from gloveboxes, in many cases, were labeled as having holdup. These are identified by a numbered sticker placed on the exhaust line. In most cases there are several stickers along the length of a line. No attempt was made to list all the stickers. Generally the first sticker is identified when it is visible. Reference throughout this document to holdup points in ducts is summarized in a letter from B.W. Jeffers and D.R. Weier, Statistical Applications, to Ed Schneider, Safeguards Measurements, titled "STATISTICAL SAMPLING PLAN RESULTS FOR PLUTONIUM HOLDUP - INCLUDING THE SECOND FLOORS FOR BUILDINGS 771 & 776/777", dated February 15, 1991, which is attached. More detail on specific survey results can be obtained by contacting Frank Lamb.

An estimate of the volume and nature of items in and outside gloveboxes is also provided to aid in evaluating the extent of deactivation, decontamination, and ultimately removal of gloveboxes and ancillary equipment. Again, these are estimates for planning purposes only and reflect a static condition at the time the walkdown was performed.

Bob Schmidt, SSOC, reports that the epoxy used into the late 80s contained asbestos. In its present condition, imbedded in the epoxy, it poses no health hazard. However, care should be taken to ensure that removal techniques are selected to prevent it becoming airborne.

This document supersedes all previous versions which had not been reviewed and possibly contained inaccurate information. It should also be understood that this document is incomplete and does not cover the entire Building, since time did not permit a complete walkdown during FY 96. As resources permit, the document will be updated.

2

Acknowledgements

Special thanks are given to Jack Weaver and Don Cox who provided technical assistance in the walkdown as well as in editing this document.

3

Room 149 - Category A

Room 149 was a plutonium residue processing facility performing dissolution, ion exchange, and incineration.

Line 27 is a former special nuclear materials (SNM) storage vault for storing plutonium material and is located in a small room on the northeast side of room 149. It is labeled as being "out of commission". It consists of a glovebox on the east wall and a storage rack on the opposite west wall. The glovebox is approximately 8 ft. long by 4 ft. wide by 2 ft. deep. It is non-leadlined. It contains approximately 24 storage positions inside the box with heat detectors. There are 17 lead shields, 1/8 in. thick by 8 in. tall by 7 in. in diameter in the box. There is an airlock whose interior cannot be visually inspected. Presumably it is empty. The room is listed as RCRA Unit 90.21, though there appear to be no materials stored in the room at the time of inspection.

The glovebox exhaust filter appears clean, as well as the intake filter.

Since material was containerized inside this box there should be no holdup. There is an estimated 2 ft^3 of stainless steel consisting of storage racks in the box. The box has thirteen 50-mil leaded gloves and one bagout port. There is an aluminum step under the box (estimated 1 ft^3). On the west wall is an 18 position storage rack constructed of mild steel (estimated at approximately 2 ft^3). The metal is painted. This rack is not contained within a glovebox. The rack has a painted steel sheet backing which is approximately 65 ft^2 and 1/8 in. thick which has been riveted to the wall. There are 15 lead shields, 1/8 in. thick by 8 in. tall by 7 in. in diameter in the rack.

Line 30 tank farm is a brand new system which has never been put into service. All tanks are blanked off. On the east and west side of this tank farm are two large water walls (empty) for shielding. These 18 ft. long by 10 ft. high by 2 in. thick steel walls are supported by six 4 in. by 4 in., 14 ft. tall steel supports. Within the tank farm are eighteen 304L steel tanks.

Tank#	NDT#	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D1927	1127	3.5'x10'	2025 l	empty	yes	yes	RR	N/A
D1928	1128	3.5'x10'	2025 l	empty	yes	yes	RR	N/A
D1930	1129	3.5'X10'	2025 l	empty	yes	yes	RR	N/A
D1931	1130	3.5'x10'	2025 l	empty	yes	yes	RR	N/A
D1932	1131	3.5'X10'	2025 l	empty	yes	yes	RR	N/A
D1945	1139	3'X8'4"	250 l	empty	yes	yes	AN	N/A
D1934	1134	3'X8"4"	250 l	empty	yes	yes	AN	N/A
D1935	1135	3'X8'4"	250 l	empty	yes	yes	AN	N/A
D1937	1136	3'X8'4"	250 l	empty	yes	yes	AN	N/A
D1936	1137	3'X8'4"	250 l	empty	yes	yes	AN	N/A
D1944	1138	3'X8'4"	250 l	empty	yes	yes	AN	N/A
D1943	1140	3'x8'4"	250 l	empty	yes	yes	AN	N/A
D1942	1141	3'X8'4"	250 l	empty	yes	yes	AN	N/A
D1939	1133	3'X8'4"	250 l	empty	yes	yes	AN	N/A

4

D1940	1142	3'X8'4"	250 l	empty	yes	yes	AN	N/A
D1941	1143	3'X8'4"	250 l	empty	yes	yes	AN	N/A
D1925	1126	3'X54"	675 l	empty	yes	yes	RR	N/A
D1926	1132	3'X54"	675 l	empty	yes	yes	RR	N/A

NOTE: Tanks D1925, D1926, D1927, D1928, D1930, D1931, and D1932 are kynar-lined.

There is an estimated 10 ft^3 of piping, valves, and sight glasses.

Line 30 is a new, unused, three-section glovebox without gloves. The line is 8-1/2 ft. tall, 3 ft. wide, and 37 ft. long. The east section contains miscellaneous 304L piping and valves. There is an estimated 10 to15 ft^3 of strippable material in this box. There are two count rate meters on small shelves under this box with an estimated volume of 1 ft^3. The middle section is coated inside and contains miscellaneous Kynar or Teflon piping, valves, filter housing, all with a volume of approximately 1 ft^3 and glass columns approximately 3 ft^3 in volume. The west section contains 6 glass ion exchange columns 6 in. diameter by 6 ft. high. Along with the glass columns, there is miscellaneous plastic pipe, fittings, and filter housings, all of which have an estimated volume of 10 ft^3.

There is a new control panel supporting this box on its south side with an approximate dimension of 12 ft. long by 8 ft. tall by 3 ft. wide.

Fume Scrubber and Chiller System. This system was used to neutralize, using KOH, acid fumes off aqueous processing lines. There are two large lined scrubber tanks:

Tank#	NDT#	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D981	1050	3'x16'	?	empty	no	yes	RR	N/A
D982	1051	3'x16'	?	empty	no	yes	RR	N/A

The tanks contain plastic saddles and Raschig rings in the lower 1 ft. of the tanks. The tanks appear empty of solution, though there is visible salt coating the interior.

A 2-1/2 ft. diameter by 1 ft. tall steel heat exchanger is located between the tanks on the east side. It is impossible to see inside. There could be residual liquid in the exchanger. The heat exchanger is supported by a chiller system containing 2 Dunham-Bush chillers, numbers 707 and 799, located just north of Line 43. Pipe above the chillers is insulated with asbestos, approximately 25 ft^3. The chiller system uses Freon 22 to cool a brine which circulates between the chiller system and the heat exchanger. There is an estimated 2 crates of miscellaneous equipment, piping, and valves and 1/2 crate of electrical hardware.

Tank#	NDT#	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D980	?	3'x3'	?	empty	no	yes	RR	N/A

All lines requiring insulation are covered with fiberglass, with the exception of a 12 ft. long line near the floor on the west side of tank 982 which is asbestos. The fume scrubber lines from aqueous processing are likely to have salt buildup and low concentrations of plutonium.

5

Line 26 is the fume scrubber pump box. It is approximately 1-1/2 ft. wide by 9 ft. long by 3-1/2 ft. high. It is not lead-lined.

Both sides of the box have gloves in the glass. There are eleven - 50 mil leaded gloves and two bag-in ports.

The box contains two pumps (motors on the outside of the box), fittings, and a filter cartridge with the filter probably still in the cartridge. This could have some liquid holdup in it. There is an estimated 10 ft^3 of equipment in the box. There is a small amount of salt residue on the bottom of the box.

A material balance card on the box shows "0" SNM. The box is labeled as being "Out of Commission".

The intake filter appears dusty. The exhaust filter appears clean. There is an fiberglass (labeled asbestos free) insulated line from this box to Tanks 980 and 981. The box seems to be in reasonably good shape.

Tank Farm - There is a tank farm on the east wall as follows:

Tank#	NDT#	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D931	1280	-	91 gal	256 l	no	-	AN	93.110
D932	1281	5'x7'	91 gal	empty	no	-	AN	93.111
D933	1282	5'x7'	59 gal	114 l	no	-	AN	93.112
D934	1283	4'x7'	55 gal	empty	no	-	AN	93.113

This tank farm is surrounded by Benelex shielding, painted white. The shielding measures 4 in. thick, is 6 ft. high, and runs 37-1/2 lineal feet (approximately 75 ft^3).

On the south side of the tank farm there is a lead sheet lying loose on the floor approximately 1-1/2 ft. by 2 ft. by 1/8 in. thick. There is a small cabinet with miscellaneous liquids and solids including calcium chloride (1 qt), recorder ink (1 qt), pump oil (1 qt), silicon grease (1 pt.), and aluminum nitrate (1 qt). There is a bottle labeled "Line 24 Water Wall Water" (2 qts). In addition are two boxes of powdered "Trend" soap, empty paint and Volrath can , and tape.

Line 24 is a cascade dissolver line for plutonium recovery from predominately high level feed (i.e. fluoride, green cake, oxide) and sand, slag, and crucible. The box is approximately 18 ft. long by 7 ft. high, by 2 ft. wide. It is a stainless steel, water-filled box, unpainted on the outside, and non-leadlined.

The box has a material balance card stating "0" grams SNM.
There are thirty eight gloveports with 50-mil leaded gloves, each has a water-filled, 1/4 in. lead-lined cover (epoxied on), each approximately 12 inches in diameter.

The box contains the following windows: nineteen round windows of the LANL style, which likely contain leaded glass. Each window shows signs of holdup at the window edge.

6

The box contains three glass cascade dissolvers, two R-6 pan filters, stainless steel filter cartridge, hot plate, condenser, tools, pans, check weights, and a feed auger. There is a small amount of residue on the floor. There is an estimated 20 ft^3 of items in the box.

Holdup points are expected in the auger feed system and the feed end. It is estimated that there is < 1 kg of plutonium holdup in this box (Jack Weaver).

The box is labeled as having 2.6 mRem/hr whole body and 11.6 mRem/hr extremity at the box. The criticality drain appears o.k. The south end of the box, locations on the back, and the whole east end are painted over fixed contamination. There is a steam line on the back side of the box which is insulated with fiberglass.

The exhaust filter appears clean. The intake filters are covered and could not be visually inspected.

The box is labeled as RCRA Unit number 90.121.

Behind Line 24 are two heat exchangers on the wall measuring 6 in. by 3 ft. as well as a surge tank measuring 5 in. by 3 ft. It is impossible to determine if there is liquid remaining in these tanks and associated piping. Total estimated volume of this piping is approximately 5 ft^3.

Line 23 is a cascade dissolver line for plutonium recovery from sand, slag, and crucible residues. The box is approximately 20 ft. long by 7 ft. high, by 2 ft. wide. It is a stainless steel, water-filled box, unpainted on the outside, and non-leadlined. The box has a material balance card stating "0" SNM.

There are thirty nine gloveports with 50-mil leaded gloves, each has a waterfilled, 1/4 in. lead lined cover (epoxied on), each approximately 12 inches in diameter. There is one 2 ft. bagout port.

The box contains the following windows: twelve- 1ft. 6in. round windows of the LANL style, which likely contain leaded glass. There are also eleven 1ft. round windows of the same type. Each window shows signs of holdup on the inside edges of the window.

The box contains three glass cascade dissolvers, two R-6 pan filters, stainless steel filter cartridge, condenser, tools, pans, check weights, and a feed auger. There is some residue on the floor. There is an estimated 20 ft^3 of items in the box.

Holdup points are expected in the auger feed system and the feed end. It is estimated that there is < 1 kg of plutonium holdup in this box (Jack Weaver).

The exhaust filter appears clean. The intake filters are covered and could not be visually inspected.

The box is labeled as having 3.8 mRem/hr whole body and 10.6 mRem/hr extremity at the box.

There is one criticality drain which appears o.k.

7

The south end of the box has lead shielding, epoxied on, on the bagout port. There is a steam line on the back side of the box which is insulated with fiberglass.

There is also a vacuum trap, 23-1, located on the east wall above Line 23 measuring 5 in. diameter by 18 in. long.

Line 25 is a cascade dissolver line for plutonium recovery from incinerator ash and sludge residues. The box is approximately 20 ft. long by 7 ft. high, by 2 ft. wide. It is a stainless steel, water-filled box, unpainted on the outside, and non-leadlined. The box is labeled as RCRA Unit number 90.121.

The box has a material balance card stating "0" grams SNM.

There are forty three gloveports with 50-mil leaded gloves, each has a waterfilled, non-lead-lined cover, each approximately 12 inches in diameter. There is a 2 ft. round bagout port.

The box contains the following windows: fifteen 1 ft. 6 in. round windows of the LANL style, which likely contain leaded glass. In addition there are nine 1 ft. round windows similar to that above. Each window shows signs of holdup on the inside of the window edge.

The box contains three glass cascade dissolvers, two R-6 pan filters (one with filter cloth in place), stainless steel filter cartridge (closed, potentially with a filter in place), condenser, tools, pans, check weights, and a feed auger. There is a small amount of residue on the floor. This is the cleanest of the three dissolver lines. There is an estimated 20 ft^3 of items in the box.

There is a bagout port on the back side with a sliding door. The door track could have holdup between the track and wall. Holdup points are expected in the auger feed system and the feed end. It is estimated that there is < 1 kg of plutonium holdup in this box (Jack Weaver).

The box is labeled as having 2.6 mRem/hr whole body and 11.6 mRem/hr extremity at the box.

There is one criticality drain which appears o.k.

The two exhaust filters cannot be clearly seen. The intake filters are covered and could not be visually inspected.

Behind Line 25 are two full-size argon bottles and cart. At the south end of Line 25 is a metal workstation, wall mounted, approximately 4 ft. by 4 ft. by 2 ft.

There is a pencil tank located on the wall behind Line 25 and a vacuum trap above Line 25:

Tank #	NDT#	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
928	1296	6"x5'	?	empty	no	yes	PEN	N/A
VT25-1	-	5"x18"	?	?	no	no	PEN	N/A

Line 43 was a combination ion exchange and sand, slag, and crucible size reduction box; and

8

used for graphite scarfing, pipe cleanout, and filter disassembly. Operations were dusty which resulted in particulates being exhausted up the exhaust lines. The line is divided into four parts.

There are seventy one 50-mil leaded gloves, 3 bagout ports, and a drum dump.

The box has the following windows: two 0.8 ft. by 2 ft (leaded glass cover); three 0.6 ft by 2 ft. (leaded glass cover); three 1 ft. by 3 ft. (leaded glass cover); one 1.6 ft. by 2 ft. (leaded glass cover); four 1 ft. by 2 ft. (no leaded glass cover); one 0.9 ft. by 2 ft. (leaded glass cover); one 2.4 ft. (no lead glass cover); thirty one 1 ft. by 2 ft. (leaded glass cover); five 1 ft. by 1 ft.4in. (leaded glass cover); three 1 foot by 1.6 ft (no leaded glass cover); one 1.2 ft. by 2.7 ft. (leaded glass cover); one 1 ft by 0.6 ft. (no leaded glass cover); two 1 ft. by 0.6 ft. (leaded glass cover); one 2.6 ft. by 3 ft.(no leaded glass cover); and one 1 ft. by 1 ft. (leaded glass cover).

All exhaust lines are labeled has having holdup. According to Jack Weaver, most of the lines are partially plugged. However, Jack believes there is only 1.7 kg of actual plutonium in these lines. This was confirmed by Frank Lamb, Safeguards Measurements, whose personnel did the survey measurements on the Bldg. 771 ducts. Frank states that off Line 43C there is 24 ft. of 5 in. duct and 20 ft. of 8 in. duct which surveys show has 1731 grams +- 589 grams of plutonium. According to Jack Weaver, this is probably tied up in a larger volume of bulk material caking the lines. It is important to note that the line expands as it passes by the Line 23 dissolver where the Line 23 dump valve ties in. Dump valves on these boxes were known to leak; therefore, it is likely that moisture was pulled from the dissolver boxes into this line which could result in caking of dust escaping from Line 43 on the walls of this larger line where it proceeds eventually to FU2-C upstairs. Frank Lamb further states that surveys of all the Bldg. 771 ducts show <12 Kg. plutonium total with an upper bound of 15.2 Kg. (95% confidence level). A draft copy of this survey is attached.

Section 43A is approximately 8 ft. long by 3-1/2 ft. tall by 3 ft. wide. There is painted 2 in. Benelex and 2 in. plexiglas covering the sides. There is a drum dump on the north end painted over the upper metal surface. There is a 1-position storage tray with heat detector, tools, tool boxes, and a vice (approximately 15 ft^3 of items). There are gram values of plutonium-containing dust in the box.

Section 43B is approximately 7ft. 6 in. long by 6 ft. tall by 3-1/2 ft wide. There is painted 2 in. Benelex and 2 in. plexiglas covering the sides. There is a 2 ft. by 2 ft. stainless steel plate (1/4 in.?), a small amount of residue, broom handle, and small brush on the floor. There is also a grinding mill located in the box. (estimated volume of 10 ft^3).

Section 43C is approximately 10 ft.long by 6 ft. tall by 3-1/2 ft. wide. There is painted 2 in. Benelex and 2 in. plexiglas covering the sides. The box contains a jaw crusher, belt guard, tools, and chain hoist (approximately 20 ft^3).

Section 43D is approximately 16 ft. long by 9 ft. tall by 3-1/2 ft wide. There is painted 2 in. Benelex and 2 in. plexiglas covering the sides. There are six anion exchange columns, piping, manifolds, and valves in the line. The columns have been emptied of resin; however there could be as much as a liter of liquid and resin still in the columns and associated piping; even though

9

the lines were drained. The floor of the box is dirty with some tools remaining. There is a cartridge canister still sealed which may contain a cartridge and possibly a liter of solution. There is an estimated 15 ft^3 of equipment in the box.

The box is labeled as having 1.09 mRem/hour whole body and 1.23 mRem/hour extremity at the box.

The criticality drain appears o.k.

Line 40 is a stainless steel glovebox containing no lead lining and was used for sand, slag, and crucible dissolution. It is approximately 11 ft. long by 5 ft. tall by 4 ft. wide. The box houses two large Bingham vacuum pumps. The motors are external to the glovebox. The entire glovebox is mounted on a concrete pedestal.

The glovebox has forty 50-mil leaded gloves and one glovebag. It is estimated by Jack Weaver that there is <50 gr. of plutonium in each pump. It is assumed that the pumps and motors would need to be placed intact into crates and would fill one 4 ft. by 4 ft. by 7 ft. long crate.

There are two associated heat exchangers approximately 2 ft. by 6 in. which hold approximately 5 gallons of liquid in each. It is estimated that these and associated piping contain approximately 20 liters of solution (Jack Weaver).

Two mist tanks are located west of Line 40:

Tank #	NDT#	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
78	1277	3'x6'	231 liter	10 liter	no	no	AN	N/A
79	1276	3'x6'	231 liter	75 liter	no	no	AN	N/A

There is fiberglass insulated piping associated with the tanks. The associated piping, pumps, valves, and heat exchangers are estimated to have a volume of 160 ft^3.

On the southeast wall there are six electrical panels about 50 ft^3 in volume.

Line 44 is a non-leadlined glovebox containing a Bingham pump and hoist. This box has 22 50-mil leaded gloves and a bagport. The box has rust on the floor along with rusty tools. The box is dirty. It is estimated that the volume of the box contents would fill a half-crate.

On the south center wall on the west side of glovebox 44 is a wall cabinet approximately 4 ft. by 4ft. by 2 ft.

Line 39 contains an H-4 Nash vacuum pump which supported the incinerator. It sits in a concrete pedestal.

This box contains eleven 50-mil leaded gloves and one 12-in. bagout port.

It has an external 15 h.p. motor. Inside the box there is also tools and a floor pickup. The estimated volume of equipment inside the box is 8 ft^3. There is an estimated 20 gr. of plutonium

10

in this box (Jack Weaver).

The glovebox exhaust line is labeled as a holdup point (# 0197 and 0198).

Associated with this line is an annular mist tank for the H-4 Nash vacuum pump:

Tank #	NDT#	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D-5	1275	2'x3'	?	5 liter	no	no	AN	N/A

The criticality drain appears o.k.

Line 38 was used to grind incinerator ash for dissolution. It is approximately 8 ft. tall, 16 ft. long, by 3 ft. high. It has approximately 3 ft. by 8 ft. of 1/8 in. lead shielding bolted on the south end. The box has painted 2 in. Benelex and 2 in. plexiglas covering the sides and front.

The box has eighty seven 50-mil leaded gloves and two large bagout ports. The windows have leaded glass window covers.

The box contains a ball mill, screens, 1 in. steel grinding balls, screw feeder, hoist rail and hoist trolley, and miscellaneous tools. The estimated volume of equipment is approximately 40 ft^3. There is an estimated 2 kg of powder still in this line with <200 gr. plutonium. The three exhaust filters are dusty.

There is an associated control panel approximately 4 ft.8 in. wide by 2 ft. 8 in. deep by 7 ft. tall.

On the southwest wall behind Line 38 are 5 lead aprons hanging on the wall.

Line 37 housed the open hearth incinerator and was used to burn plutonium-bearing combustibles. The front section of the box is approximately 4 ft. wide by 6 ft. deep by 6 ft. long. The bag-in and sorting section is approximately 3 ft. deep by 3 ft. tall by 7 ft. long. It has approximately 30 ft^2 of 4 in. plexiglas on the bottom and approximately 13 ft by 1-1/2 ft. of 1/8 in. lead bolted on the sides. The front of the box has a 4 ft. by 20 in. copper plate with water cooling coils on the outside to protect the gloves and operator while the incinerator was running.

The box has twenty one 50-mil leaded gloves, a drum bagin port, and an 18 in. bagout port.

The incinerator still has firebrick lining the inside which likely has plutonium holdup. The grates are sitting in the north end of the line outside the firebox along with metal rods, and a steel plate (estimated volume 8 ft^3). There is an estimated 5 kg of ash and brick fines still in the box with approximately 500 gr. plutonium. There is also asbestos in the area of the firebox. The area in front of the firebox is posted "Radiation Area". This box has significant potential for holdup.

The box is labeled as having 1.6 mRem/hour whole body and 4.0 mRem/hour extremity at the box.

There is a metal platform for lifting barrels into the drum dump which is approximately 3 ft. by 2-1/2 ft. in volume.

External to the glovebox is a painted air duct approximately 25 ft. long by 4 in. by 1 in. which was used to supply air to the face of the glovebox for operator comfort.

Behind Line 37 is a red-painted fire suppression tank:

Tank #	NDT#	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
T176	-	10"x14"	?	?	no	yes	RR	N/A

The tank appears to be empty; however, it is suspected that the there could be residual water in the bottom of the tank and piping to Line 37, though the water should be radioactively "cold". Lines from Line 37 which are insulated, appear to be asbestos-free.

From Line 37 the off-gas passed into the #1 heat exchanger, approximately 18 in. in diameter and 15 ft. long. There is an estimated 2 kg of ash in this section with approximately 200 gr. plutonium (Jack Weaver). The off gas then would pass through a 32 in. long by 18 in. diameter expansion joint to the #2 heat exchanger. This heat exchanger with internal draft tubes, approximately 3 ft^2 by 12 ft. tall, is estimated to contain 10-15 kg. of ash containing approximately 1-1.5 kg. plutonium. Jack Weaver does not recall this system being cleaned since the shutdown in 1989. The exhaust gas then passed through an 18 in. by 2 ft. long expansion joint, elbows and pipe for approximately 12-15 ft. to the top of the spray chamber. The spray chamber (NDT # 1322) is approximately 3 ft. in diameter by 7 ft. high. There is an estimated 50 gr. plutonium in the spray chamber system. From the spray chamber, there is a 6 in. diameter pipe approximately 12 ft. long to the cyclone separator (NDT # 1325, -26, -27). The wet cyclone is approximately 2 ft. in diameter by 5 ft. tall. The sight gauge on the separator shows it to be empty. From the wet cyclone a 4 inch pipe passes to the bottom of Line 33. There is an estimated 50 gr. plutonium in the wet cyclone system (Jack Weaver).

Materials of construction for the off-gas system is stainless steel (the number one heat exchanger is Inconel) and during operation required replacement approximately every 6 months due to chloride corrosion.

There is a 3 ft. diameter by 1 ft. high heat exchanger under the spray chamber. There likely is liquid and some holdup in the exchanger.

Tank #	NDT#	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
630	1297	6"x8'	12 gal.	empty	no	-	PEN	N/A
631	1298	6"x8'	12 gal.	empty	no	-	PEN	N/A

Line 33 is a painted box approximately 15 ft. long by 3 ft. tall by 3 ft. deep. It has approximately 39 ft^2 of painted 1/8 in. lead shielding bolted and epoxied onto the box. This box was used to filter soot and ash from the scrubbed incinerator off gas and houses the pumps for KOH solution transport within the scrubber system. This caustic solution was filtered through a drum filter. The cake was removed from the filter and the filtrate was passed through Ful-Flo

filters to remove any residual solids before going to the filtrate tank. The filtrate tank likely has sludge and holdup in the bottom of the tank.

The box has 27 50-mil leaded gloves and a 12 in. bagout port on the north end.

The box contains, beside a drum filter, a set of Ful-Flo filter canisters with filters possibly still in the canisters. On the south end of the box a pump is located in the lower portion of the box. The box is dirty and there is an estimated <100 gr. plutonium in the box. The box has holdup points in the exhaust line (including #00297, 00298, and 02177). The potential holdup points in the box include the drum filter housing, valve box and pump box. The exhaust filter is dirty. There is approximately 10 ft^3 of items in the box.

There is a small tank (approximately 8 gal. capacity) (NDT# 1328) located on the top of the glovebox with a small mixer for introducing diatomaceous earth into the box as a filter aid on the drum filter. The tank should be empty but could not be visually verified.

The box is labeled as having 1.00 mRem/hour whole body and 1.06 mRem/hour extremity at the box.

The criticality drain appears o.k.

Tank	NDT#	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
177	-	2-1/2'x4'	?	empty	no	-	RR	N/A

The tank contains caustic salts. There is an estimated <50 gr. plutonium in the tank (Jack Weaver), though no visible liquid can be seen. There is a contaminated pump located below the tank.

Line 42 is the ion exchange glovebox for removing impurities from plutonium solutions which came from various gloveboxes. The box is painted and has approximately 80 ft^2 of 2 in. thick Benelex shielding.

There are one hundred fourteen 50 mil leaded gloves; seventeen 8 in. penetrations with no gloves; two 1 ft. diameter bagout ports, and five 1ft. square filter inlets.

The glovebox has the following windows: ten 1.4 ft by 4 ft. (no leaded glass covering); eight 1 ft. by 4 ft. (no leaded glass covering); two 1.6 ft. by 4 ft. (no leaded glass covering); five 1.6 ft. by 4 ft. (leaded glass covering); five 1.9 ft. by 4 ft. (leaded glass covering); three 1.4 ft. by 3 ft. (leaded glass covering); one 1 ft. by 3 ft. (leaded glass covering); two 1 ft. by 3 ft. (no leaded glass covering); and two 1.2 ft. by 1.6 ft. (leaded glass covering).

There are six 6 in. diameter by 6 ft. tall glass columns in the box. All resin has been removed from the columns. There is an estimated <162 gr. plutonium in the box per a letter from M.V. Mitchell (MV 037-94). This letter is attached to the glovebox. There is an estimated 2000 lb. metal pipes, flanges, and pumps in the box (approximately 1/2 crate). The floor is dirty. There is an empty flask, rolls of yellow tape, and tools in the glovebox. There are approximately fourteen dirty Ful-Flo filters in the box along with a canister still sealed.

13

External to the box is an in-line NDT counter (approximately 1-1/2 ft. by 4 in.) which is connected to an external multichannel analyzer cabinet 2 ft. by 3 ft. by 6 ft. located north of Line 42. On the south end above the glovebox is a liquid nitrogen dewar (approximately 30 gal). On the south side of the line is an acid line with a tag stating that it has 7 N HNO_3 in the 1 in. pipe.

The inlet filters to the box appear clean as well as the exhaust filters. The exhaust line is labeled as having holdup (including #00121, 00157, 00151, 00161, and 00168).

The boxes are labeled as having 1.4 mRem/hour whole body and 2.2 mRem/hour extremity at the box.

There are associated imbedded pipes in the concrete floor.

The following tanks are located near the southeast corner of Line 42:

Tank #	NDT#	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
456	1279	6"x4'	?	1/3 full	no	-	PEN	N/A
457	1278	6"x4'	?	1/3 full	no	-	PEN	N/A

These pencil tanks contain 7 N and 0.35N $HN0_3$.

Line 42 has two 480V control panels for batching, effluent, stripping, recycle, and elution. One is approximately 4 ft.deep by 6 ft. tall by 8 ft. long . The other is 2 ft. deep by 7 ft. tall by 9 ft. long.

Tank Farm supporting Line 42 is located just south of Line 42. The farm is surrounded by approximately 68 ft. of 4 in. thick by 6 ft. tall painted Benelex shielding. The following tanks are located in the tank farm:

Tank #	NDT#	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D0451	1090	4'x4'	87 gal	empty	no	yes	RR	93.095
D0472	1091	3'x4'	46 gal	empty	no	yes	RR	N/A
D0452	1092	4'X4'	140 gal	125gal	no	yes	RR	93.096
D0453	1093	4'X4'	140 gal	empty	no	yes	RR	93.097
D0454	1094	4'X4'	114gal	empty	no	yes	RR	93.098
D0470	1085	3'X4'	61 gal	empty	no	yes	RR	N/A
D0469	1086	5'X3'	59 gal	empty	no	yes	RR	N/A
D0468	1087	4'X3'	50 gal	empty	no	yes	RR	N/A
D0467	1088	4'X3'	55 gal	empty	no	yes	RR	93.100
D0466	1089	3'X4'	55 gal	empty	no	yes	RR	N/A

Tank D0452 has a holdup point label on the side of the tank (#1108). Tank D0454 has holdup point labels #1112-1116.

It is estimated that the tanks, associated piping, pumps, and valves would fill 6 crates. There are approximately 30 drums of Raschig rings. PPE and combustibles generated from the D&D

14

would fill approximately 2 more crates.

Tank Farm supporting Line 43D is located just north of Line 42. The farm has painted Benelex shielding on two sides approximately 13 ft. of 4 in. thick by 6 ft. tall. The following tanks are located in the tank farm:

Tank #	NDT#	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D0973	1056	2.8'x3'	57 gal	empty	no	yes	RR	93.116
D0974	1054	2.8'x4'	62 gal	empty	yes-lead	yes	RR	93.117
D0975	1053	3.8'X4.5'	140gal	empty	no	yes	RR	N/A
D0976	1052	3.8'X3.8'	103gal	empty	no	yes	RR	N/A
D0971	1057	3.8'x4'	139gal	empty	no	yes	RR	N/A
D0972	1056	3.8'X4'	144gal	empty	no	yes	RR	N/A

Tank D0975 is tagged as having solution holdup in the line. Pipes on the floor below tank D0972 are also tagged as having solution holdup in the lines.

The volume of the associated pipes and valves is approximately 60 ft^3, not counting the tanks.

There is a painted pneumatic control panel located at the southeast corner of the tank farm. It measures approximately 3 ft. wide by 4 ft. tall by 6 in. wide.

Line 29 is a chloride ion exchange line approximately 15 ft. long by 10 ft. high by 2-1/2 ft. wide. It was a laboratory waste processing glovebox which removed plutonium from high chloride laboratory solutions by means of cation exchange. It has a lead lining epoxied on. It is also Kynar-lined inside. The box is painted. This box is a RCRA Unit #771-2292 listing <5 g/l ion column feed.

There are 65- 50 mil leaded gloves with 9 in. steel covers, 21 booted ports, and one 12 in. bagout port on the east end of the glovebox.

The box has the following windows: 17 - 1 ft. by 1 ft.; 11- 16 in. by 1 ft.; 10 - 14 in. by 8 in.; and 2 - 2 ft. 4 in. by 1 ft. 1 in. - all with leaded glass covers. There are five 1 ft. by 1 ft. reinforced glass windows on the top of the box for lighting.

There are four glass ion exchange columns approximately 6 in. in diameter by 6 ft. tall and a glass slop pot 6 in. in diameter by 2 ft. high. The columns are empty of resin. There are five Teflon sheets on the floor measuring 2 ft. by 2 ft. by 1/4 in. thick. The box contains considerable Kynar piping/fittings as well as two Ful-Flow filters (used) on the floor. There is an estimated 10 ft^3 of piping, 5 ft^3 of glass, and 5 ft^3 of stainless steel. There are several bottles of solution in the box, IDC 400. There are twelve full 4 liter bottles (3.75 liters in each), and one 1/3 full (1.4 liters). There are two pumps at the west end of the box with two motors external to the box. There are Ful-Flo filter containers with plastic fittings inside the box and one stainless steel container with metal couplings. There are miscellaneous tools and thermocouple wire in the box. There is a 1/2 pint squeeze bottle approximately 1/8 full of lube oil(?). There are two 1 ft. by 1-1/2 ft. by 1/2 in. plastic sheet on the glovebox floor on the west end. There are two 1 ft. by 6 in. by 6 in. pump speed control boxes outside the box on

15

the floor on the south end.

There is a 2 inch exhaust line (without a filter) leading to the FU2-Zone 1 line. The two intake filters on the west side are dirty. The criticality drain appears o.k.

The boxes are labeled as having 1.2 mRem/hour whole body and 1.6 mRem/hour extremity at the box.

Tank Farm supporting Line 29 is located just west of Line 29. The following tanks are located in the tank farm:

Tank #	NDT#	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D0364	1031	30''x60"	39 gal	empty	no	no	AN	93.094
D0363	1035	24"x60"	58 gal	empty	no	no	RR	N/A
D0362	1034	24''X60"	59 gal	empty	no	no	RR	N/A
D0361	1034	24''X60"	59 gal	empty	no	no	RR	93.091
D0360	1032	24''x60"	59 gal	empty	no	no	RR	93.090

There is possible liquid in the lines. There is the possibility of HCl in the lines. There is an estimated 20 ft^3 of valves and piping, not including the tanks.

There is a metal stand approximately 2 ft. by 4 ft. by 6 in. on the west side of Line 29

Tank Farm supporting Line 29 is located just north of Line 29 tank farm. The following tanks are located in the tank farm:

Tank #	NDT#	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D0920	1036	1'8''x4'	26 gal	empty	no	yes	RR	N/A
D0921	1038	4'x3'	91 gal	empty	no	yes	RR	93.105
D0922	1037	4'X3'	92 gal	empty	no	yes	RR	93.106
D0923	1039	5'X6'	565 gal	empty	no	yes	RR	93.107
D0927	1040	76"x58"	507 gal	empty	no	yes	RR	93.108

Tank D0923 is tagged as having liquid holdup in the line. All lines should be considered as having liquid holdup. There is approximately 50 ft^3 of piping, valves, etc. not counting the tanks.

Tank Farm of lab waste processing tanks and chloride line tanks supporting Line 30 is located just east of Line 30. The following tanks are located in the tank farm:

Tank #	NDT#	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D208	1041	2'x5'	58 gal	empty	no	yes	RR	N/A
D207	1042	2'x5'	58 gal	empty	no	yes	RR	N/A
D219	1043	30''X42"	58 gal	empty	yes	yes	RR	N/A
D218	1044	30''X42"	58 gal	empty	yes	yes	RR	N/A
D203	1045	24''x60"	58 gal	empty	no	yes	RR	N/A
D204	1046	24"X60"	58 gal	empty	no	yes	RR	N/A

16

D205	1047	24"X60"	58 gal	empty	no	yes	RR	N/A
D206	1048	24"X60"	58 gal	empty	no	yes	RR	N/A

D205 and D206 are lined tanks. All tanks except D208 are labeled as being out of service. Tanks D208 and D203 likely have solution in the lines.

There is an estimated 10 ft^3 of pipe, valves, and site gauges.

Line 50 is a filtration box located on the west wall behind Tank 921 and was used to filter KOH from Line 33. It is approximately 5 ft. long by 2 ft. 8 in. tall by 2 ft deep. The box is lead-lined (epoxied on) on the sides and front and painted.

The box has four 50-mil leaded gloves and one 12 in. diameter bagout port.

The box has two windows approximately 2 ft. 4 in. by 1 ft. 2 in. and one window on the top measuring 2 ft. by 3 ft. 4 in.

There are two empty steel Ful-Flo canisters on the floor along with metal piping and valves. The volume of these items is approximately 6 ft^3. The floor is dirty.

The intake filter is dirty as well as the exhaust filter. The exhaust line is labeled as a holdup point (#00532).

The criticality drain appears o.k.

Line 31 is a solution sample box located south of Line 30 and was used to sample for KOH waste and steam condensate. It is approximately 3 ft. wide by 3 ft. tall by 2 ft. 8 in. deep. The box is non-leadlined and painted.

It has four 50-mil leaded gloves with no port covers. It has a 12 in. bagout port.

The box has four windows: one 2 ft. 10 in. by 1 ft.; one 2 ft. 10 in. by 11 in.; one 2 ft. 8 in. on top of the box; and one 6 in. by 1 ft. on the back of the box.

There are tools in the bottom of the box and numerous valves and some piping. There is an estimated 2 ft^3 of metal in the box. There is also a glass flask, a 1 gal plastic bottle, and a pint plastic squeeze bottle. These all appear empty. The floor of the box appears dirty with some residue.

The intake filter is very dirty, almost plugged. The exhaust filter appears clean. The exhaust line is labeled as a holdup point, #00553.

There is a material balance card showing "0" grams SNM.

Line 30 is the chloride dissolution and ion exchange line and was used for acid dissolution and ion exchange of pyrochemical salts from Building 776. It is approximately 28 ft. long by 3 ft. wide by 5 ft. 5 in. high. It appears to be a water-wall box with lead tape on the joints of its

17

three sections and end caps. The box is painted white. There is a material balance card showing "0" grams SNM.

It has eighty six 50-mil leaded gloves with fifty three 9-in. steel covers with 1/8 in. lead attached. There are also three 9-in. and one 12-in bagout ports.

The box has windows with the following dimensions. All have leaded glass covers: ten 4 ft. by 1 ft. 4 in.; two 4 ft. by 1 ft. 2 in.; ten 4 ft. by 1 ft.; and two 2 ft. by 1 ft. ; and two 2 ft. by 1 ft. In addition there are four 3 ft. 8 in. windows on top (not reinforced) and one 1-1/2 ft. by 1-1/2 ft. reinforced window.

The south end of the box has seven 3 ft. by 6 in. diameter glass dissolver pots, all empty. There is rusty piping and tools in the box and the floor is also corroded. There is approximately 30 ft^3 of piping and hardware and approximately 8 ft^3 of glass.

The intake filter on the south end is clean while the two filters on the north end appear dirty. There are three exhaust filters in the center portion of the box. They are housed in an external box; consequently their condition can't be determined. There are access covers to the filters which have been lead taped. From the condition of the tape it appears that they have not been changed in quite some time. There are holdup points identified on the exhaust lines (#00541, 00544, and 00547).

There is a sample port external to the box in the center which is surrounded by a lead casing and their is miscellaneous lead tape covering old sample ports.

The two criticality drains appear o.k.

The box is labeled as having 1.46 mRem/hour whole body and 2.9 mRem/hour extremity at the box.

Contamination Control Cell is located in the northwest corner of the room and is used for drum opening and repackaging. It is approximately 8 ft. 1 in. by 8 ft. 4 in. by 7 ft. 8 in. tall. It is unshielded. There is a 2 ft. by 3 ft. by 2-1/2 ft. downdraft table in the room. There also is a drum opening device in the corner. There is a small bag of combustibles, a 4 liter plastic bottle with approximately 1 liter of some chemical (KW?), rolls of tape, surgeon's gloves, hand tools, electric sawzall, and five feet of static discharge copper wire.

The cell has the following windows: two 3 ft. 2 in. by 2 ft. plexiglas; one 12 in. circular reinforced glass, and six 2 ft. by 1 ft. reinforced glass on top.

On the northwest wall adjacent to the cell is a pressure gauge control panel measuring 2-1/2 ft. by 2-1/2 ft. by 3 ft.

There is a metal work station approximately 3 ft. by 3 ft. by 1 ft. bolted to the wall.

Drums - The following drums are currently being stored in Room 149:

NW Corner, south Glovebox 50 - 3 drums (one, IDC 484; two, IDC 301)

W Side Line 30 - 13 drums (one, IDC 861; one, IDC 438; one, IDC 374; one, IDC 336; two, IDC 480; one, IDC 861; one, IDC 862; one, IDC 342; one, IDC 484; two, IDC 301; one, IDC 337)

N Side line 30 - 3 drums (two, IDC 480; one, IDC 431)

E Side Line 30 - 12 drums (twelve, IDC 431)

W Side Caustic Scrubber - 15 drums (one, IDC 484; six, IDC 301; three, IDC 431; one, IDC 822; four, IDC 487)

S Side Line 29 - 3 drums (three, IDC 431)

W Side Line 37 - three drums (two, IDC 480; one, IDC 331-RCRA #771-1896)

Behind Line 25 - two drums (two, IDC 342)

N Side Line 30 - eight drums (one, IDC 487; two, IDC 301; two, IDC 491; one, IDC 822; one, IDC 861; one, IDC 823)

19

Room 146 - Category A

Line MT-8 is approximately 2 ft. 4 in. deep by 4 ft. 8 in. tall by 15 ft. 2 in. long. The box has no lead shielding, is unpainted, but appears to have a water wall. There is an airlock on the south end approximately 1 ft. 6 in. square with lead tape where the airlock joins the glovebox.. The box has never been put into service, is cold, and has open gloveports.

The box has the following windows: eleven 12 in. diameter round plexiglas windows with 1 ft. 4 in. by 1/2 in. thick plexiglas covers; four 1 ft. 5 in. diameter round plexiglas windows with 1 ft. 9 in. by 1/2 in. thick plexiglas covers; three 1 ft. by 2 ft. reinforced glass windows on the ceiling (one is missing the glass); one 6 in. by 12 in. reinforced glass; one 1 ft. 4 in. by 10 in. (plexiglas?); and one 1 ft. 3 in. by 8 in. (plexiglas?)

The box has eleven 50-mil leaded gloves. There are thirty eight gloveports total, most with no gloves. There are thirty one 11 in. diameter by 2-1/2 in. thick water shields (non-leadlined) containing water. There is one 1 ft. 1 in. diameter by 2-1/2 in. thick water shield over the 1 ft. 2 in. diameter bagout port on the north side of the box. There is one 2 ft. diameter bagout port with a 2 ft. 2 in. by 2 ft. 2 in. shield door with 1/8 in. lead sheet (epoxied on) on the back side of the glovebox.

The box contains one 6 in. diameter by 3 ft. tall cascade dissolver with Kynar fittings (empty). There is one 6 in. diameter by 2-1/2 ft. long glass column (empty). In addition there are two 9 in. lead-covered glove port shields on the bottom of the glovebox and miscellaneous metal components, pans, and fittings. There are approximately 4 ft^3 of Kynar parts, 8 ft^3 of stainless parts, fittings, and flanges, and 1 ft^3 of glass.

There are two intake filter ports with no filters.

The box has two exhaust ports with no exhaust filters. The exhaust line, however, is labeled as a holdup point (#1832 and 1833).

The box is labeled as having 1.0 mRem/hour whole body and 1.0 mRem/hour extremity at the box.

The criticality drain is empty and not in use.

There is one 6 in. diameter by 2 ft. long vacuum trap located above the north end of the glovebox.

There are three lead aprons hanging on the wall at the north end of the glovebox.

Line MT-7 is approximately 2 ft. 8 in. deep by 5 ft. 5 in. tall by 6 ft. long and was used for PUREX solvent extraction. It is non-leadlined and painted. ' There is an airlock approximately 1 ft. 6 in. cubed. The airlock could not be visually inspected.

The box has the following windows: eight 2 ft. 5 in. by 1 in. glass(?) with plexiglas covers; two 8 in. by 2 ft. windows on top of the box.

20

There are fourteen 50-mil leaded gloves, four gloveports with boots, and a 1 ft. 6 in. diameter bagout port on the south end. It has a 1 ft. 6 in. cover with 1/8 lead shielding.

Inside the box are four 6 in. diameter by 3 ft. tall glass columns (empty). There is an empty metal Ful-Flo canister on the floor as well as Tygon tubing and miscellaneous metal fittings. There is an estimated 2 ft^3 of glass and 5 ft^3 of metal. The box floor has a liner which is dirty on the top surface. The liner is separated from the edges which could result in holdup beneath the liner.

The two intake filters are dirty. The exhaust filter appears clean. The exhaust line has holdup point labels (#1840 and 1841).

There is a material balance card that reads "0" grams SNM.

On top of the box are two glass vessels, each approximately 6 in. diameter by 2 ft. tall, each with an expanded metal shield surrounding them. One tank (NDT#0948) contains ferrous sulfamate and appears to be 1/2 full of liquid and dried salt. The other tank (NDT#0947) contained 1 M $(NH_4)_2SO_4$ appears to be empty. There are two additional tanks located above the box:

Tank #	NDT#	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
1062	1058	5''x42"	?	empty	no	yes	PEN	N/A
D0921	1038	5"x42	?	empty	no	yes	PEN	N/A

There is approximately 1 ft^3 glass and 5 ft^3 metal piping and fittings.

Line MT-3 is approximately 3 ft. by 3 ft. by 17 ft. 8 in. long and was used for mixed Pu/U precipitation and calcination. It is built in three equal length sections. It is painted with no lead lining. There is an airlock approximately 1 ft. 6 in. cubed. The airlock could not be visually inspected.

The box has fourteen 50-mil leaded gloves, thirteen 9 in. diameter steel glove port covers with 1/8 in. lead shielding, and a 1 ft. 5 in. diameter bagout port.

The box has the following windows: three 5 ft. by 1 ft. 8 in. with lead glass covers; one 8 in. by 3 ft. reinforced glass window; one 9 in. by 4 ft. reinforced glass window; and one 8 ft. by 3 ft. reinforced glass window.

In the south end, the transfer box, there are three empty square metal pans, along with tools, Tygon tubing, and fittings. The floor is dirty. There is approximately 3 ft^3 of metal parts.

The intake filter is dirty. The exhaust filter on the south end is loose (i.e. not sealed). The exhaust line is labeled as a holdup point (#1868, 1867).

There is a balance and check weights located on top of the box with a penetration into the box.

21

In the center section are two Ful-Flo canisters which appear empty, tools, Tygon tubing, and valves. There appears to be approximately 3 ft^3 of metal items. There is some debris on the floor and salt in the south corner.

The criticality drain appears o.k.

The exhaust filter is dirty and the exhaust line has a holdup point label (#1879).

In the north end there is a vacuum pump and motor inside the box (2 ft^3); a muffle furnace (1 ft^3); and a water heater(?) (1 ft^3). The water heater could have residual solution inside, even though it has been disconnected. There is a mixer, a metal stand and pans, two blenders, and tools. There is approximately 3 ft^3 of miscellaneous metal. There is a balance on top of the box with penetration into the box. The floor is very dirty and rusty.

The exhaust filter is dirty and the exhaust line is labeled as a holdup point (the numbers could not be read).

The boxes are labeled as having 1.0 mRem/hour whole body and 4.8 mRem/hour extremity at the box.

There are insulated cooling water lines behind and beneath the box, none with asbestos.

Above the glovebox are four tanks and a vacuum trap (VT):

Tank #	NDT#	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D1064	1062	6"x3'	2.9 gal	empty	no	yes	PEN	N/A
D1065	1061	6"x3'	2.9 gal	empty	no	yes	PEN	N/A
D1066	1060	6"X3'	2.9 gal	empty	no	yes	PEN	N/A
VT1058	0946	5"X2'	?	empty	no	yes	PEN	N/A
D1067	?	6"x8'	7.9 gal	empty	no	yes	PEN	N/A

(Note: There is external contamination on the floor below tank D1067)

Line MT-1 is a dissolution box approximately 2 ft. 8 in. deep by 3 ft. 3 in. tall by 18 ft. long and was used for residue roasting. It is painted with no lead shielding. It also has a 1 ft. 6 in. cubed airlock. There is a material balance card which reads "0" grams SNM.

The box has thirteen 50-mil leaded gloves with painted steel port covers with 1/8 in. lead. There is one 1 ft. 8 in. bagout port on the north end and one 12 in. bagout port on the north end.

The box has the following windows: three 5 ft. by 1 ft. 8 in. with leaded glass covers; one 8 in. by 3 ft. reinforced glass window; one 9 in. by 4 ft. reinforced glass window; and one 8 ft. by 3 ft. reinforced glass window.

In the north end of the box are shelves, tools, fittings, a 1 ft^3 muffle furnace, pans, hot plate, and wire. These total approximately 3 ft^3. There are two 500 ml bottles of HF (both full) in the line. The floor is fairly clean. There is an external balance with glovebox penetration.

22

The intake filter is dirty as well as the exhaust filter. The exhaust line is labeled as a holdup point (#1887).

In the center section is a wire brush, tygon tubing, wrench, electrical cord, and a one-position storage container with heat detector (empty). The floor is dirty. There is approximately 1 ft^3 of items in the box.

The intake filter and the exhaust filter are dirty. The exhaust line has a holdup point label (#1874).

The south section has a small mesh basket with metal fittings inside the basket. There is also a heat gun, valves, shelves, and tape. The volume is estimated at 1 ft^3. There is an external balance with penetration.

The intake and exhaust filters are dirty. The exhaust line is labeled as having holdup (#1862).

The box is labeled as having 1.0 mRem/hour whole body and 7.0 mRem/hour extremity at the box.

There are two tanks located at the line:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
T1033	1064	7"x3'	3 gal	empty	yes	yes	PEN	N/A
D1032	1063	7"x3'	3 gal	empty	yes	?	PEN	N/A

Note: There is a 3/4 in. line into the glovebox that is also lead taped. There is also an aluminum nitrate line to the box tagged "solution in line".

There is also an unlabeled vacuum trap approximately 5 in. diameter by 3 ft. long built into two sections, each approximately 1-1/2 ft. in length. There could be solution in this trap and associated piping.

The criticality drain appears o.k.

There are insulated lines above and below the box which are labeled asbestos-free.

Between Lines MT-7 and MT-3 is a metal bench with drawers approximately 8 ft. long by 2 ft. deep by 3 ft. high. There are miscellaneous items in the bench including tools, plastic bags, labels, box of Tygon tubing, a roll of filter cloth, numerous miscellaneous items, and chemicals. The chemicals include: a 4 liter bottle of sodium carbonate (1/8 full); a two liter bottle of sodium carbonate (1/3 full); a pint of RTV 627B curing agent; three pint bottles of pH 7 standard solution; four pint bottles of pH 10 standard solution; two pint bottles of pH 4 standard solution; one pint of ultrasound couplant; 1/4 pint of mineral oil; approximately two liters of 7.3% phosphoric acid/38% trisodium phosphate; a lead brick; and a bag of vermiculite.

Lines MT-5 and -6 are painted, leadlined (epoxied) gloveboxes consisting of two attached

sections: one 3 ft. 5 in. long by 2 ft. 4 in. deep by 6 ft. 6 in. tall sitting on a concrete pedestal approximately 2 ft. by 2 ft. by 2 ft.; and a section 5 ft. 4 in. by 3 ft. tall by 2 ft. 4 in. deep. The box also has two 1 ft. 6 in. cubed airlocks. The lower airlock door is open into the glovebox and appears empty and clean. The upper airlock cannot be visually inspected. This box was for grinding and oxidizing materials.

The box has nineteen 50-mil leaded gloves, each with 9 in. steel covers each lined with 1/8 in. lead; one 12 in. bagout port; two 1 ft. 7 in. bagout ports; and two covered glove ports (lead taped).

The box has the following windows: five 2 ft. 4 in. by 1 ft. 1 in. with leaded glass covers; eight 1 ft. 3 in. by 8 in. with leaded glass covers; one 1 ft. 8 in. by 1 ft. 1 in. with leaded glass cover; one 1 ft. 4 in. by 11 in. with leaded glass cover; and two 1ft. 6 in. by 8 in. reinforced glass.

In the south section (Line MT-6) is a Buffalo hammer mill supported by two 4 in. diameter by 2 ft. tall steel posts, screens, a pan with tools, and a small hoist (approximately 6 ft^3). The floor has residue on it.

In the north section (Line MT-5), which was used for oxidizing and packaging, is a muffle furnace (2 ft^3), screens, tools funnel, pans, can opener, large Volrath can with tools, produce can sealer tape small taped bag of trash, a hair dryer, and a one position heat detector (empty). There is probably an additional 3 ft^3 of items in this section. The floor has residue on it. There is an external balance penetrating the glovebox.

There is a material balance card reading "0" grams SNM.

There are two intake filters which are dirty. There are two exhaust filters which appear clean. The exhaust lines are labeled as having holdup (#1845, 1846, and 1848).

There are two criticality drains which are o.k.

It should be noted that operations in this box were very dusty. There is the potential of some holdup in the glovebox and particularly in the exhaust lines leaving the box.

The box is labeled as having 1.2 mRem/hour whole body and 6.8 mRem/hour extremity at the box.

Line MT-2 is a primary leaching and second dissoution glovebox. It is painted, non-leadlined, and is approximately 2 ft. 5 in. deep by 3 ft. 3 in. tall by 18 ft. 2 in. long. with a 1 ft. 6 in. cubed airlock.

There is a material balance card reading "0" SNM.

The box has twelve 50-mil leaded gloves, each with a 9 in. steel plate cover lined with 1/8 in. lead; one 9 in. bagout port; one 12 in. bagout port; and one 1 ft. 6 in. bagout port.

The box has the following windows: three 5 in. by 1 ft. 7 in. with leaded glass covers; and three

24

4 ft. by 8 in. reinforced glass.

The boxes are labeled as having 2.0 mRem/hour whole body and 3.9 mRem/hour extremity at the box.

The south end has one storage position with heat detector (empty); a metal plate approximately 2 ft. by 1-1/2 ft. by 1 in. thick; hair dryer; shelf; one 8 in. by 4 in. by 1 in. thick wall cylinder (lead?); empty Ful-Flo canisters; a metal pot; valves and couplings. The estimated volume is 3 ft^3.

The center section has valves, a steam candle, a bag with combustibles, miscellaneous tools and metal pieces totaling approximately 3 ft^3.

The north end has valves, two plastic funnels, metal pans, two metal baskets, metal and plastic cans, a brush, and electrical wire. Total volume is approximately 2 ft^3. There is an external balance with glovebox penetration.

The floor is dirty in all sections.

The three intake filters are clean. The exhaust filters cannot be examined. The exhaust line has holdup points (#1814, 1821, 1827).

There are insulated steam, cooling water, and condensate lines attached to the box which are labeled "asbestos free".

The box is labeled as having 2.0 mRem/hour whole body and 3.9 mRem/hour extremity at the box.

Behind Line MT-2 are several tanks and vacuum traps:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
T1053	1066	1'7"x3'2"	16 gal	empty	no	yes	RR	N/A
T1050	1065	1'7"x3'2"	16 gal	empty	no	yes	RR	N/A
T1051	0942	5" x 2'	16 gal	empty	no	yes	PEN	N/A
T1054	0943	5" x 2'	16 gal	empty	no	yes	PEN	N/A
VT1052	0940	6" x 7'	25 l	empty	no	yes	PEN	N/A
VT1055	0941	6" x 7'	25 l	empty	no	yes	PEN	N/A
VT1061	no #	6" x 1'	4 l	empty	no	yes	PEN	N/A
VT1059	no #	6" x 2'	8 l	empty	no	yes	PEN	N/A

There are two Nash H-4 vacuum pumps (encased in Pyrel foam sound deadner) along with two 15 hp. motors. Both sit on concrete pedestals. There are two heat exchangers approximately 2 ft. in diameter by 1 ft. deep. It is estimated that the tanks, traps, pumps, motors, and associated valves and piping would fit in two crates.

Note: There is the possibility of liquids in lines.

25

There is a small tritium sample station attached to the wall behind Line MT-2. It consists of some tubing and two glass sample bottles (empty).

At the south end of Line MT-2 is a chiller system mounted on the wall. Estimated volume including tanks is 15 ft^3. It has two tanks associated with it:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
T1072	1078	6"x3'	4 gal.	empty	no	yes	PEN	N/A
T1071	1079	6"x3'	4 gal.	empty	no	yes	PEN	N/A

Behind Line MT-5 is a tank farm consisting of six pencil tanks as follows:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
T1001	?	6"x8'	8 gal.	empty	no	yes	PEN	93.035
T1002	?	6"x8'	8 gal.	empty	no	yes	PEN	93.036
T1003	?	6" x 8'	8 gal.	empty	no	yes	PEN	N/A
T1004	?	6" x 8'	8 gal.	empty	no	yes	PEN	N/A
T1005	?	6" x 8'	8 gal.	empty	no	yes	PEN	N/A
T1006	?	6" x 8'	8 gal.	empty	no	yes	PEN	N/A

Note: All sight gauges have hinged steel covers with lead lining.

This farm is surrounded by 4 in. Benelex shielding: two walls approximately 9 ft. tall by 12 ft. 8 in. long and one wall 9 ft. tall by 2 ft. 6 in. long.

North of this tank farm are two tanks as follows:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D1007	1019	2'x4'10"	?	empty	yes	yes	RR	N/A
D1008	1020	2'x8'	92 gal.	empty	yes	yes	RR	93.042

Behind line MT-1 is another tank farm as follows:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D1009	1024	6"x8'	8 gal.	full?	no	yes	PEN	93.043
D1002	1023	6"x8'	8 gal.	full?	no	yes	PEN	93.044
D1011	1022	6"x8'	8 gal.	full?	no	yes	PEN	93.045
D1012	1021	6"X8'	8 gal.	full?	no	yes	PEN	93.046

These tanks have no sight gauge covers. The tank farm is surrounded by 4 in. Benelex shielding: two walls approximately 9 ft. tall by 8 ft. 5 in. long and one wall 9 ft. tall by 2 ft. 2 in. long.

Line MT-4 is a painted, non-leadlined manifold glovebox approximately 3 ft. deep by 6 ft. tall by 30 ft. long and was used for anion exchange and solution evaporation. There is painted lead tape covering several penetrations around the glovebox.

26

The box is labeled as RCRA ID# TMPSTGMT4(2284-771). It also has a material balance card showing eight 4 liter plastic bottles (3.75 liters/each) of solution, IDC 400.

It has one hundred and eight 50-mil leaded gloves with sixty six 9 in. steel covers with 1/8 in lead. The top two rows of gloves are mounted in the windows. There is one 12 in. bagout port (with a cover); one 9 in. bagout port; and one 1 ft. 6 in. bagout port.

The box has the following windows: eighteen 3 ft. by 4 ft. with leaded glass covers; and nine 2 ft. by 8 in. reinforced glass.

Inside the box is a stainless steel evaporator, a condenser of glass and steel; a glass slop pot approximately 6 in. diameter by 2 ft. long; nine glass columns approximately 6 in. diameter by 2-1/2 ft. long; steel valves and fittings; tools, glass flasks; and several empty Ful-Flo canisters. All of the glass columns are surrounded by a metal mesh cage and five of the columns appear to have some form of insulation surrounding them (asbestos?). There is an estimated 5 ft^3 of glass and 15 ft^3 of metal components. The glovebox floor is dirty.

Three intake filters on the south end and two on the north end are slightly dirty.

The box is labeled as having 1.0 mRem/hour whole body and 2.0 mRem/hour extremity at the box.

Storage Vault and Tank Farm - located in the southeast corner of room 146 (label over the door says 146C. The room has painted Benelex doors 8 ft. 4 in. tall by 8 ft. wide.

The following tanks are located in this room:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D1024	1018	2'x8'	96 gal.	empty	no	yes	RR	N/A
D1023	1017	2'x8'	103 gal.	empty	no	yes	RR	N/A
D1022	1016	2'x8'	84 gal.	empty	no	yes	RR	93.048
D1014	1015	2'10"X4'6"	78 gal.	empty	no	yes	RR	N/A
D1013	?	2'10"X4'6"	78 gal.	empty	no	yes	RR	93.047

There is an estimated two crates worth of tanks and piping.

On the west wall are 29 storage locations for nuclear material storage. There are twenty three wall mounted lead containers approximately 6 in. diameter by 1 ft. 1 in. tall by 3/8 in thick. There are six wall mounted steel containers with 1/8 in. lead lining (epoxied on) approximately 10 in. diameter by 1 ft. tall.

There is a solution holding tank painted control panel approximately 2 ft. by 2-1/2 ft. by 6 in.

There is a hazardous satellite accumulation area (#771-2068) for one drum which is currently empty.

Drums - The following drums are currently being stored in Room 146:

Inside the vault - 3 drums (two, IDC 342; one IDC 863)

E Side Line MT-8 - 15 drums (ten drums, IDC 337; two drums, IDC 330; two drums, IDC 431; one drum IDC 480)

S Side Line MT-2- 1 drum (one, IDC 331)

SW corner of room - 2 drums (one, IDC 337; one, IDC 431)

28

Room 140B - Category D

Training Glovebox - located in the northwest corner of the room. It is painted, non-leadlined. Presumably it is not contaminated inside. The box is approximately 3 ft. long by 2 ft. 8 in. tall by 2 ft. 2 in. deep and is mounted on a roll-around cart. The box has an airlock approximately 1 ft. by 1 ft. by 1 ft.

The box has the following windows: one 2 ft. by 2 ft. 2 in. plexiglas with the two 50 mil leaded gloves mounted in the plexiglas. There is another plexiglas window 2 ft. 2 in. by 2 ft. 8 in. with a bagout port mounted in the plexiglas.

Inside the box are plastic bags, bottles, and two 50 mil leaded gloves. Located under the box on the bottom shelf is an R-6 pan filter assembly.

There is a slate blackboard approximately 7 ft. by 4 ft. against the northwest wall. Next to it are two 3 ft. by 5 ft. cork boards. On the floor against the northwest wall are two rolls of lead tape.

Against the north wall is a metal storage cabinet approximately 7 ft. tall by 3 ft. wide by 1 ft. deep with shelves containing rolls of tape, miscellaneous tools, water filter cartridges, nylon rope, nylon belts, a soldering gun, a pint plastic container full of nuts and bolts, a two-stage pump and motor and a 6 in. by 1 ft. roll of plastic sleeving. There is also a canning apparatus. All together there is about 3 ft^3 of items, not counting the cabinet.

Also against the north wall is a 3 ft. by 1 ft. by 2-1/2 ft. shelf leaning against the wall containing a new water pump (1/2 ft^3); a plastic bottle with sawzall blades; a speed controller and wire (1/2 ft^3).

There is a portable bag sealer (6 ft^3) against the northeast wall. There is also an 8 in. diameter by 4 ft. long roll of plastic.

There is a metal shelve 3 ft. wide by 2 ft. deep by 7 ft. tall on the northeast wall containing miscellaneous motors, pumps, fan, gas gauges, rope, tape, cans, bolts, lights, and plastic tubing (approximately 8 ft^3). There are also 4 mild steel metal drum spacers approximately 7 in. diameter by 1 ft. 3 in. tall; approximately 4 ft^3 of miscellaneous cable, balances, and a hot plate; a gram estimator detector with lead shield (lead hollow cylinder approximately 1 in. wide by 2 in. thick); a painted metal scaffold on wheels, 6 ft. long by 6 ft. tall by 2 ft. wide; several bundles of cardboard tubes (50 ea.) 2 ft. 7 in. long by 7 in. diameter by 1/4 in. thick; and an empty 4 liter Nalgene bottle.

There are five metal cabinets on the east wall approximately 3 ft. wide by 1-1/2 ft. deep by 6 ft. tall containing chemicals. All chemicals appear to be bar-coded; however, some bottles are labeled as containing unknowns. A number of the bottles have been opened at one time or other. Chemical quantities run from a few grams to several pounds.

There is a 3 ft. wide by 7 ft. tall by 14 in. deep metal shelf containing glue, cleaning agents, soldering paste, anion exchange resin, oil, calking, RTV, and other miscellaneous materials on

the south wall.

There are two metal cabinets on the west wall approximately 3 ft. by 1-1/2 ft. deep by 6 ft. tall. One cabinet is locked and inaccessible. One cabinet contains miscellaneous chemicals. It is likely the other one does also.

There is a metal cabinet on the west wall approximately 3 ft. by 1-1/2 ft. deep by 6 ft. tall which contains miscellaneous equipment, bottles, balances, and plastic (approximately 4 ft^3).

30

Room 147 E - Category D

There is a battery charger (2 ft^3) which is bagged and assumed contaminated inside located against the north wall.

There are two metal storage shelves 3 ft. wide by 14 in. deep by 7 ft. tall containing miscellaneous electronic instruments (power supplies, printer, etc.), tools, valves, motors, sparge tubes, Teflon and Kynar parts, lead hammer, lead glove port covers, a bag of ice cream cartons, a tool box with tools, and eleven 12 in. diameter by 2 in. thick plexiglas disks. Total volume is estimated at 20 ft^3.

There is a five drawer painted file cabinet containing wire and a rubber glove (1 ft^3) with a can sealer sitting on top of the cabinet (2 ft^3).

There are three metal cabinets approximately 3 ft. wide by 1-1/2 ft. deep by 6 ft. tall containing miscellaneous metal, electronics, plastic, tools, bags, sample vials, can lids, saw blades, and what appears to be an asbestos blanket and glove (approximately 30 ft^3).

In the southwest corner of the room is a 3 ft. by 3 ft. by 2 ft. wooden table with a hinged metal lid. On the table is a printer, keyboard, and monitor. Under the table is a box 6 in. by 1-1/2 ft. by 1-1/2 ft. containing paper printer tape.

Room 147B - Category D

There is a painted metal multidrawer cabinet 1 ft. 7 in. deep by 2 ft. 6 in. wide by 6 ft. tall on the southeast wall containing miscellaneous tools, labels, Ful-Flo filters, and computer tapes (10 ft^3).

In addition there are the following pieces of equipment:

- two Digital Dec Writer II workstations approximately 2 ft. by 2 ft. by 3 ft. each
- one large portable fan (3 ft^3)
- two computer monitors (3 ft^3)
- one 5 ft. by 2-1/2 ft by 3-1/2 ft. computer cabinet and equipment
- one 3-1/2 ft. by 2-1/2 ft. by 6 ft. tall Canberra computer system
- one 7 ft. by 3 ft. by 1/2 ft. air conditioning unit (attached to south wall)
- two 2 ft. by 2 ft. by 2 ft. AC Line Conditioner Unit electrical control panels
- one 2 ft. by 3 ft. by 6 ft. Nuclear Data Computer System

Room 147 C, E, F - Category D

This room houses the can-scan system.

The can-scan system is located in the southeast corner and consists of a 3 ft. by 3 ft. by 3 ft. cabinet with a source unit containing 60,000 microcurie Se-75 (dated 11/1/89). Associated with the system is a cabinet 3-1/2 ft. by 3-1/2 ft. by 1ft. 10 in. containing a liquid nitrogen dewar and approximately 20 lead bricks.

There is a box approximately 1 ft^3 which is labeled "radioactive material container" located on the east wall behind the can-scan system. It is currently labeled as being "empty".

There are the following cabinets and equipment:

- one 2-1/2 ft. by 2-1/2 ft. by 2 ft. amplifier/counting system
- one Decwriter II workstation - 2 ft. by 2 ft. by 3 ft.
- three counting systems, each 3 ft. by 3 ft. by 2 ft. containing a nitrogen dewar and a Se-75 source (60,000 microcurie as of 11/1/89).
- one 3 ft. by 3 ft. by 2 ft. instrument cabinet with electronics.

In addition there is approximately 40 ft^3 of metal book cases, computer monitors, tables, chairs, etc.

Room 147E - Category D

This room contains a 6 ft. wide by 2 ft. deep by 6-1/2 ft. tall steel cabinet with miscellaneous electronics, tools, sample vials, centrifuge, furnace boats, hot plate, standard solutions, cans, labels, tape, and Kynar parts. Total volume is estimated at 30 ft^3.

Room 140D - Category D

This room contains one 6 ft. by 2 ft. deep by 6-1/2 ft. steel cabinet with paper forms and labels (5 ft^3).

Room 147A - Category D

This room contains a padlocked box approximately 1 ft^3 which is labeled as containing "radioactive material". The box is padlocked and cannot be examined to see if it contains SNM.

Room 147 - Category D

This room contains at the south end a granite table 2 ft. by 3 ft. by 2-1/2 ft. with a Mettler balance and check weights.

On the west wall are twenty seven wall mounted 1 ft. by 8 in. diameter storage containers, leadlined with 1/8 in. lead. In the containers are 16 clamshells which appear to be standards for the counting system. In one locked storage container is a package that is labeled as IDC 368.

The southeast wall of this room is covered with painted Benelex shielding, approximately 16 ft. by 4 ft. high by 2 in. thick.

Room 114 - Category A

There is a tank farm located on the west side of the room containing the following tanks:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D0705	1095	3'x4'	102 gal.	empty	yes	yes	RR	93.025
D0706	1096	3'x4'	102 gal.	empty	yes	yes	RR	93.026
D0713	1097	5'x5'	415 gal.	empty	yes	yes	RR	N/A
D0714	1098	5'X5'	399 gal.	empty	no	yes	RR	N/A
D0715	1099	2'X5'	71 gal.	empty	no	yes	RR	N/A
D0716	1100	2'x5'	71 gal.	empty	no	yes	RR	N/A
D0764	1101	2'x5'	71 gal.	empty	yes	yes	RR	N/A
D0765	1102	2'x5'	69 gal.	empty	yes	yes	RR	N/A

Note: Tanks 0715, 0716, 0764, and 0765 are labeled as being "operationally empty". Tanks 0705, 0706, 0713, and 0714 are labeled as having solution holdup in the lines. Tanks 0705, 0706, 0713, 0764, and 0765 have lead-lined steel sight gauge covers.

Line 1 is a lengthy glovebox with three sections and is 63 ft. long by 6 ft. tall by 3 ft. deep and was originally used for americium recovery, specifically multiple anion and cation exchange. The box is painted and leadlined, with exception of the middle 18 ft. section which is new and non-contaminated at this time. The new section contains no paint, however, it is leadlined with the lead epoxied on.

The box has 48 gloveports with 50 mil leaded gloves; 15 ports with boots, 19 ports with plexiglas windows; three 12 in. bagout ports; and two 9 in. bagout ports.

This box has the following windows, all with leaded glass covers: fifteen - 2 ft. by 2-1/2 ft. ; thirteen - 1-1/2 ft. by 2-1/2 ft.; two - 1-1/2 ft. by 2-1/2 ft.; two 1ft. 5 in. by 2 ft. 8 in.; twenty one - 2 ft. by 1 ft.; three 9 in. by 1 ft. 9 in.; one 2 ft. 6 in. by 1 ft. 10 in.; two - 10 in. by 10 in. ; and one - 8 in. by 1 ft.

In the south end of the glovebox is one 6 in. by 3 ft. glass column, piping, valves, Ful-Flo cartridges and canisters, glass flasks, and a metal partition. This was used for caustic (KOH) filtration. There are also one hundred and thirty 4 liter bottles (3.75 liters nominally) of solution (IDC 528) in the box. The material balance cards state that the solutions have "0 grams" SNM. There is slight corrosion in the line.

In the middle section, which is new and unused, there are four six inch diameter by 4 ft. glass columns with surrounding insulation; two 6 in. by 1 ft. glass columns; a steel evaporator; and nine large plastic valves (9 ft^3). There is a 2 ft. by 1 ft. diameter clamshell furnace (possible asbestos in the insulation). There is an estimated 10 ft^3 of piping and valves and 5 ft^3 of glass.

The criticality drain appears o.k.

The three inlet filters appear slightly dirty. The three exhaust filters are not visible. The exhaust lines are labeled as holdup points (#1438, 1434, and 1429).

35

The north section is the original dissolution and precipitation section for americium recovery and is very corroded and dirty. There are three 8 in. diameter by 4 ft. glass columns, one evaporator, and twelve 8 in. diameter by 4 ft. precipitation columns. There is an estimated 20 ft^3 of piping. There are tools in the box and rust on the bottom.

There is a section on the northeast end of the line which is approximately 6 ft. by 4 ft. by 3 ft., painted and leadlined. It is almost impossible to see in the line. The windows are badly stained. There are three inlet filters and three exhaust filters, none of which can be visually inspected. The exhaust lines have holdup points (#592, 1400, and 587).

The box is labeled as having **23.0 mRem/hour whole body and 907.0 mRem/hour extremity** at the box. This box was used to precipitate americium from solution and is extremely radioactively hot. There is the potential of some holdup in the box.

On the west side of line 1 there are three lead aprons hung on the wall.

In the northwest corner is an air mover approximately 2 ft. by 3 ft. by 3 ft. which is contaminated inside. Next to it is a hydraulically operated ladder approximately 4 ft. by 7 ft. tall by 2-1/2 ft. wide.

There is a vacuum trap, VT1-1, measuring 5 in. by 2 ft.

Line 2 is in three sections and was used for plutonium metal dissolution, HEPA filter dismantling, sludge dissolution, glass/metal leaching. The west section is 3 ft. wide, 4 ft. tall, and 6 ft 6 in. long. The center section is 13 ft. long, 7 ft. tall, and 3 ft. wide. The east section is 6 ft. 6 in. long, 3 ft. wide and 4 ft. tall. The box is painted but is not lead-lined.

There is a material balance card which states "0 grams" SNM.

The box has the following windows, all with leaded glass covers: eight - 1 ft by 1 ft. 2 in.; two - 8 in. by 3 ft.; six 1 ft. 3 in. by 8 in.; three 1 ft. diameter; twenty eight 9 in. diameter; eight - 1 ft. by 2 ft. 8 in.; and four 1 ft. 8 in. by 2 ft.

The box has thirty two 50-mil leaded gloves; ten booted gloveports; two 9 in. bagout ports; one 12 in. bagout port; and one 2 ft. by 3 ft. bagout port on the east end.

In the west end is a metal basket, Ful-Flo filter, and a glass column six in. diameter by 2 ft. long, and miscellaneous piping and valves. Estimated volume of metal, piping, and valves is approximately 2 ft^3.

In the middle section and east end are tools, a metal basket, bandsaw, and two 6 in. diameter by 3 ft. long glass columns. Estimated volume of metal components approximately 5 ft^3.

The box looks relatively clean.

There are three inlet filters which appear dirty and two exhaust filters whose internal face

36

looks damaged on both. The exhaust line is labeled as having holdup (#2381).

The boxes are labeled as having 1.5 mRem/hour whole body and 2.6 mRem/hour extremity at the box.

Above the glovebox is a vacuum trap, No. VT2-1, 5 in. diameter by 2 ft. long.

Behind Line 2 there five lead aprons hung on the wall.

Line 3 is the dissolution line and is built in three sections and was used for plutonium oxide dissolution using nitric acid and 0.5% hydrofluoric acid. The north section is approximately 7 ft. tall and 3 ft. wide for 9 ft. of its length. The last 9 ft. of this north section then increases in height to 11 ft. The middle section is 6 ft. tall by 3 ft. wide by 15 ft. in length. The south section is 7 ft. tall by 3 ft. wide by 21 ft. long.

The entire east side is covered with painted lead shielding which is bolted on.

The west side of the line is covered with Benelex and plexiglas. The Benelex is painted and is in several sections covering gloveports and the lower section of the glovebox. There is 220 ft^2 of 2 in. Benelex and approximately 60 ft^2 of 2 in. plexiglas.

The line has the following windows, all are covered with leaded glass: nine 8 in. by 16 in; eleven 8 in. round; one 12 in. round; twelve 11 in. by 16 in.; two 3 ft. by 1 ft.; seven 2 ft. by 2 ft.; forty seven 2 ft. by 1 ft.; one 8 in. by 8 in. and two 10 in. by 22 in. In addition there are three 3 ft. by 1 ft. reinforced; one 2 ft. by 1 ft. reinforced; one 8 in. by 3 ft.; five 3 ft. by 1 ft.; and one 2 ft. by 1 ft.

There are one hundred thirty four 50-mil leaded gloves, one 9 in. bagout port, and one 12 in. bagout port.

In the south end of the line are pipes, valves, pipe supports, angle iron, a funnel, and residual liquid on the bottom of the box near the criticality drain. There are two 4 in. diameter by 5 ft. tall glass columns and one glass condenser 8 in. diameter by 3 ft. tall. Total metal volume is estimated at 5 ft^3 with approximately 2 ft^3 of glass. There are two exhaust filter ports, with one filter damaged on the face. The other exhaust port (in the north end) has no filter. The exhaust line is labeled as having holdup (#1481).

In the middle section there is a 4 in. diameter by 3 ft. glass column; approximately 15 ft. of 2 in. plastic tubing; and tools. There is an estimated 2 ft^3 of plastic pipe and 10 ft^3 of metal components.

There are four exhaust filters whose surfaces are damaged and the exhaust line is labeled as having holdup (#1025 and1026).

In the north end are pan filters, a feed auger, bolts, tools, and two 4 in. diameter by 3 ft. glass columns. There is an estimated 15 ft^3 of metal, 2 ft^3 of plastic, and 1 ft^3 of glass. The floor in this section is very dirty. In the south end are two exhaust filters whose surface is damaged.

37

The exhaust lines are labeled has having holdup (#2375).

The glovebox line has eight inlet filters which cannot be visually examined due to covers over the filters.

The box has three criticality drains which appear o.k.

The boxes are labeled as having 2.34 mRem/hour whole body and 2.64 mRem/hour extremity at the box.

There is a vacuum trap, VT3-1, measuring 5 in. by 2 ft.

Vault - there is a vault located east of Line 3. It is surrounded by 8 in. concrete on the back wall and cinderblock construction on the front with six steel doors (each approximately 3 ft. by 7-1/2 ft.). The vault length is 40 ft. by 8 ft. tall by 5 ft. wide. The vault is reported to have seventy two storage positions which may have 3 in. plexiglas or waterwalls around the positions. However, the vault doors were locked and inaccessible. There were no Material Balance cards suggesting the positions are empty of SNM.

There are two vault storage areas located east of Line 1. The south vault is approximately 12 ft. long by 8 ft. tall by 5 ft. wide with 8 in. concrete on the back wall and cinderblock construction on the front with two steel doors (each approximately 3 ft. by 7-1/2 ft.). It is reported to have twenty one storage positions. However, the vault doors were locked and inaccessible. There were no Material Balance cards suggesting the positions are empty of SNM.

The north vault is approximately 12 ft. long by 8 ft. tall by 5 ft. wide with 8 in. concrete on the back wall and cinderblock construction on the front with two steel doors (each approximately 3 ft. by 7-1/2 ft.). It is reported to have twenty seven storage positions. However, the vault doors were locked and inaccessible. There were no Material Balance cards suggesting the positions are empty of SNM.

East of Line 1 between the two vaults is a wall which has four 6 ft. by 4 ft. sheets of 1/8 in. lead bolted onto the wall for shielding.

Between these two vaults, on the west side of Line 3 is the "Line 3 Dissolution Control Panel" which is 3 ft. wide by 30 in. deep by 7 ft. tall.

On the north wall at the north end of Line 3 are two hot tool cabinets. These cabinets are approximately 3 ft. by 2 ft. by 6 ft. tall.

Each has a criticality drain, which is o.k.

Each has one inlet and one exhaust filter. The inlet filters appear slightly dusty. The exhaust filters are built into the cabinets and cannot be visually inspected. The exhaust lines are labeled as having holdup (#1463 and 1467). According to signs on the cabinets, they are highly contaminated inside. The cabinets are locked and cannot be opened without an RCT present.

Next to the hot tool cabinets is a storage cabinet approximately 3 ft. by 16 in. deep by 6 ft. tall. Inside are twenty four HEPA filters, most 8 in. by 8 in. with some 12 in. by 12 in.; tools; high vacuum grease; tape; and plastic bags. There is an estimated 12 ft^3 of items in the cabinet. Next to the cabinet are two HEPA filter installation tools approximately 1 ft^3 each. There is also a portable tool box with tools approximately 2 ft. by 2 ft. by 1 ft.

Line7A is the Nash pump glovebox and the vacuum system for Lines 6 and 7. There is a glovebox approximately 2 ft. by 3 ft. high by 6 ft. long housing the pump. The box is non-leadlined and painted. There is an external 7-1/2 H.P. 480V motor. The motor and pump box are mounted on a concrete pedestal approximately 2 ft. by 3 ft. by 6 ft. The motor and pump box are mounted on top of a steel platform approximately 2 ft. wide by 7 ft. long by 6 in. high.

The box has seven 50 mil leaded gloves; one 9 in. bagout port; and one 16 in. bagout port on the roof of the box.

The box has the following windows: nine 12 in. by 6 in. and two 8 in. by 12 in.

The bottom of the box is dirty. Inside the box is the Nash pump which, with associated piping, totaling approximately 3 ft^3.

There is one inlet filter and one exhaust filter. The inlet filter is slightly dirty. There are no holdup labels on the exhaust line.

There are insulated lines adjacent to the box which are not labeled, but appear to be fiberglass.

The boxes are labeled as having 0.89 mRem/hour whole body and 1.34 mRem/hour extremity at the box.

There is a tank located adjacent to the pump:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D7	1116	3'x2'	13 gal.	empty	no	no	AN	N/A

Note: The waste drain line from the tank is labeled has having solution holdup.

There is also a heat exchanger 2 ft. long by 8 in. diameter (NDT# 1175).

Behind glovebox 7A is an HF gas detection control panel approximately 5 ft. tall by 1 ft. deep by 2 ft. wide.

Line 7 which houses the hydrofluorinator is a waterwalled box 20 ft. long by 3-1/2 ft. wide by 7 ft. tall. This box was used to convert plutonium oxide to plutonium fluoride. Note that the waterwall extends one foot below the bottom of the raised glovebox which makes the box appear 8 ft. tall. The box is unpainted with no lead shielding.

There are forty leaded gloves with unpainted waterfilled covers 1 ft. in diameter by 6 in. deep. There are thirteen leaded gloves with painted waterfilled covers 11 in. in diameter by 4 in.

deep. There is one 9 in. bagout port with a 1 ft. diameter by 6 in. deep unpainted waterfilled cover. There is one 1 ft. 4 in. diameter by 6 in. deep waterfilled bagout port cover over a 1 ft. 2 in. bagout port on the south end of the glovebox. There are three 9 in. bagout ports on the glovebox ceiling. (Note that one large round window and five small round windows have only 1/2 in. plexiglas covers).

The glovebox has the following windows: one 9 in. round glass window with a 1 ft. 2 in. by 1 ft. 3 in. by 6 in. deep waterfilled port cover; ten 1 ft. 8 in. diameter with 2 in. plexiglas covers; sixteen 1 ft. 3 in. diameter with 2 in. plexiglas covers; one 3 ft. by 10 in. window in the ceiling.

The box is extremely dirty on the bottom with rusty tools, tubing, hoist, and miscellaneous equipment, including the fluorinator. There is approximately two crates worth of metal in the box. This box is a good candidate for significant holdup.

The Material Balance card indicates "0" grams SNM.

There are six pneumatic transfer lines entering the box. There is also a 20 in. diameter duct approximately 2 ft. 4 in. long connecting this line to Line 6.

The criticality drain appears o.k.

There are two inlet filters which appear clean and two exhaust filters. The exhaust filters could not be visually examined. The exhaust lines are labeled as having holdup (#2412 and 2413).

The box is labeled as having 1.99 mRem/hour whole body and 4.83 mRem/hour extremity at the box.

There is a fire blanket on a shelf against the east wall. The material is unlabeled and unknown.

Line 6 is 7 ft. tall by 8 ft. long by 3 ft. wide. It is a waterfilled box with no paint and no lead shielding. This line was the fluorinator HF scrubber.

The box has twenty two leaded gloves with 11 in. diameter by 4 in. wide painted waterfilled covers. There is one 9 in. bagout port with a 11 in. diameter by 4 in. wide painted waterfilled cover. There is one 1 ft. 2 in. bagout port with a 1 ft. 4 in. diameter by 4 in. deep painted waterfilled cover. There is a 2 ft. diameter bagout port with a 2 ft. 2 in. diameter by 4 in. deep painted waterfilled cover. There is a 9 in. bagout port in the ceiling.

The box has the following windows: eight 1 ft. 8 in. diameter with 1/2 in. plexiglas cover; three 1 ft. 3 in. diameter with 1/2 in. plexiglas cover; and a 1 ft. by 2 ft. window in the ceiling.

In the box is a metal mesh basket approximately 1 ft. by 2 ft. by 8 in. containing rusty tools. There is a metal scrubber approximately 6 ft. tall by 3 ft. wide of 6 in. diameter pipe. There is a balance and check weights, a metal pan with two dirty Ful-Flo filters, four Ful-Flo metal canisters (three are still attached), a small spool of 1/4 in. braided steel cable, tubing, tools, and miscellaneous metal parts. There is an estimated 20 ft^3 of metal parts and 2 ft^3 of plastic.

The glovebox floor is dirty and there is the potential for holdup on the floor and in the evaporator.

The criticality drain appears o.k.

There is an intake filter which appears clean and an exhaust filter with surface damage. The filter looks clean. The exhaust line is labeled as having holdup (#0592).

The box is labeled as having 2.3 mRem/hour whole body and 4.6 mRem/hour extremity at the box.

North of Line 6, north of the cinderblock wall, are the following control and power panels, etc:

- Vacuum Pump Control Panel, wall mounted, 440V - 4 ft. by 1 ft. 8 in. by 9 in.
- H6 Vacuum Pump Control Panel, wall mounted - 1 ft. 4 in. by 2 ft. by 9 in.
- E-H6 Vacuum Pump Control Panel, wall mounted, 440V - 4 ft. by 1 ft. 8 in. by 9 in.
- Wall mounted steel desk - 2 ft. 7 in. by 3 ft. by 1 ft. 6 in.
- Electrical Panel, wall mounted - 1 ft. 8 in. by 2 ft. by 1 ft.
- Transformer - 2 ft. by 2 ft. by 1 ft. 4 in.
- Power switch boxes, wall mounted - 2 ft. by 6 in. by 10 in.
- Metal table - 1 ft. 6 in. by 3 ft. by 3 ft. 7 in.
- Power cabinet-fluorinator, 240V, wall mounted - 3 ft. by 3 ft. by 1 ft. 4 in.
- HF Console Control Cabinet - 4 ft. 5 in. by 2 ft. 8 in. by 7 in.
- Calciner Control Cabinet - 3 ft. by 2 ft. 8 in. by 6 ft.
- T2 Fluorinator Heater Cabinet - 2 ft. by 1 ft. 6 in. by 3 ft.

Located in front of the desk above is a fluorinator hydraulic pump and reservoir with a 7.5 hp motor mounted on top. Estimated volume is 12 ft^3 for the pump and reservoir and 2 ft^3 for the motor. The associated piping, valves, and pressure gauge will take up about 20 ft^3.

Line 5 is approximately 16 ft. 8 in. long by 4 ft. wide by 6-1/2 ft. tall. It was used for spray dissolution of unwanted material from parts and fixtures and other furnace components with acid. It has no lead shielding; however it is covered with painted Benelex and plexiglas. It has an extension which is 5 ft. 4 in. long by 3 ft. 6 in. wide by 7 ft. 3 in. tall on the northwest corner of the box. Two in. Benelex shielding covers the entire box except for the top and bottom and the windows, which are covered with 2 in. plexiglas.

The box has sixty two 50 mil leaded gloves; 8 booted ports; a 17 in. diameter bagout port with an 18 in. diameter by 2 in. thick painted, water-filled port cover; a 14 in. diameter bagout port; and a 9 in. bagout port.

The box has the following windows: six 2 ft. by 1 ft; one 1 ft. 2 in. by 9 in.; three 1 ft. 8 in. by 1 ft.; seven 1 ft. by 3 ft.; six 20 in. by 1 ft.; three 16 in. by 3 ft.; two 16 in. by 3 ft. (each with two glove ports in the windows); one 22 in. by 30 in.; one 1 ft. by 2 ft. (with two glove ports); and four 3 ft. by 8 in. on the top of the glovebox. Note that all the windows except the 1 ft. by 2 ft. and the 16 in. by 3 ft. with gloves were covered also with leaded glass.

41

The extension on the northwest corner has a 6 in. by 2 in. glass slop pot (1/2 ft^3 glass); a stainless steel spray leach vessel approximately 16 in. diameter by 1 ft. high (approximately 1-1/2 ft^3); two 480V pumps, braided pipe,and rusted tools. The bottom of the box has liquid, is very dirty and rusty. In the upper section of this extension above the pumps there is approximately 5 ft^3 of metal piping, valves, a metal tray and some debris (white powder) on the floor.

In the main section of the glovebox there are two spray leach vessels approximately 16 in. in diameter by 1 ft. high; four steel Ful-Flo canisters; several filters, miscellaneous tools, valves, struts, gauges, and Tygon tubing and approximately 8 ft. of 1/4 in. steel cable. The box floor is dirty. There is an estimated 20 ft^3 of metal components, and 2 ft^3 of Tygon tubing. There is a small amount of glass (1/2 ft^3) such as a flask. There is a Mettler balance located above the box with a penetration into the box.

There are two intake filters which are dirty and two exhaust filters which cannot be visually examined. The exhaust lines are labeled as having holdup (#1317 and 1307).

The box is labeled as having 1.78 mRem/hour whole body and 5.2 mRem/hour extremity at the box.

The box is a RCRA Unit, ID# TMPSTG Line (#2290-771).

There is an overhead steam line with insulation which is not labeled.

Note: The box has fixed contamination labels in numerous places.

There are two pencil tanks located under the glovebox:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
T609	1250	5'x16'	7 gal.	empty	no	yes	PEN	N/A
T610	1251	5'x16'	7 gal.	empty	no	yes	PEN	N/A

There is a tank farm located just south of Line 5:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D0552	1125	4'x9'	85 gal.	empty	yes	yes	AN	93.022
D0551	1124	4'x9'	66 gal	empty	yes	yes	AN	93.021
D0550	1123	4'x6'	67 gal.	59 gal.	yes	yes	AN	93.020
D0548	1124	4'x6'	67 gal	empty	yes	yes	AN	93.018
D0549	1124	4'x6'	67 gal	empty	yes	yes	AN	93.019

There are three vacuum traps, VT5-1S, VT5-1N, and VT550-1,approximately 5 in. by 2 ft.

There is an estimated 10 ft^3 of piping, valves, and sight gauges associated with the tanks.

The tank farm is surrounded by forty seven feet of 4 in. thick painted Benelex shielding, six feet tall. There also is about 16 ft^2 of 4 in. plexiglas associated with the Benelex.

There is a control panel mounted on the Benelex wall on the east side approximately 2 ft. by 2 ft. by 1 ft. There also is a supply cabinet approximately 2 ft. by 2-1/2 ft. by 1 ft. attached to the Benelex containing tape, chem wipes, and plastic.

South of Line 2 against the south wall of room 114 is a shielded drum storage area. The shielding is painted 4 in. thick Benelex approximately 6 ft. tall by 22-1/2 ft. long. Inside the storage area are the following drums: one - IDC 342; one - IDC 440; one - IDC 337; one - IDC 330; one IDC 336; and one IDC 339.

On the south wall east of the shielded drums storage area is the following equipment: one 5 ft. by 2 ft. by 2 ft. shelf containing a computer, printer, monitor, and keyboard (approximately 7 ft^3) and one 2 ft. cubed "gram estimate" counting chamber on a stand. There is a 4 liter plastic bottle containing some material (?) inside the chamber.

Line 16 is an unshielded, unpainted glovebox with waterwalls. This box was used for calcination of plutonium peroxide to plutonium oxide. The box is 3 ft. 6 in. wide by 7 ft. tall by 16 ft. long. (The west end of the box is 7 ft. tall for 4-1/2 ft in length, then 6 ft. tall the rest of the length.)

The box has sixty gloveports with 11 in. diameter by 2 in. deep painted waterfilled port covers; four 9 in. bagout ports with 11 in. diameter by 2 in. deep painted waterfilled port covers; and two 17 in. bagout ports with 20 in. diameter by 2 in. deep painted waterfilled port covers.

The box has the following windows: twenty three 20 in. diameter; fifteen 14 in. diameter; and three 1 ft. by 1ft. in the roof. All windows except the roof have a 1/2 in. plexiglas cover.

The material balance card shows "0" grams SNM.

The west side of the glovebox has a length of rope, machine drive guards, Ful-Flo filter, metal funnel, bolts, tools metal plates, check weights, drive chains, feed auger, chain hoist, an external balance with glovebox penetration, Teflon gaskets, a pneumatic transfer station for two pneumatic transfer lines, a large calciner, and electrical cord. The calciner will occupy approximately 1/2 crate. The remaining metal is estimated at 30 ft^3. There is an estimated 4 ft^3 of Teflon gaskets. The electric cord has a volume of approximately 5 ft^3.

There are two exhaust filters which can't be visually inspected. The exhaust lines are labeled as having holdup (#2435 and 2437).

There is a vacuum trap, VT16-1, measuring approximately 5 in. diameter by 2 ft..

Line 16A is the east end of the glovebox (scrubber section) and has a glass vacuum knockout pot 4 in. diameter by 19 in. high; a scrubber 4 in. diameter by 42 in. tall; an R-4 filter 10 in. diameter by 2 in. high; 2 pans; a metal Ful-Flo filter canister; tape; two Teflon gaskets; a Ful-Flo filter cartridge; a metal scoop; and tools. There is an estimated 10 ft^3 of pipe and valves, 1

43

ft^3 of plastic and Teflon; and 2 ft^3 of glass.

There is one intake filter that is clean. There are two exhaust filters that are dirty. The exhaust lines are labeled as having holdup (#2446 and 2459).

There is a pass through to Line 15 which is 1-1/2 ft. by 1-1/2 ft. by 2 ft. long. It has two 50 mil leaded gloves with no shielding and a 9 in. round window on top. There is a chainveyor in the pass through between the two gloveboxes which is approximately 8 ft. long. There are external motors and gearboxes with a volume of approximately 5 ft^3.

The box is labeled as having 3.4 mRem/hour whole body and 25.0 mRem/hour extremity at the box.

This box is a good candidate for holdup, particularly in the calciner.

The criticality drain appears o.k.

Line 15 is an unshielded, unpainted glovebox with waterwalls. This box was used for plutonium peroxide precipitation from nitrate solutions. The box is approximately 18 ft. long by 2 ft. 10 in. wide by 6 ft. tall.

The material balance card shows "0" grams SNM.

The box has sixty two 50 mil leaded gloves with 11 in. diameter by 2 in. thick painted waterfilled port covers. There are also two 9 in. bagout ports.

The box has the following windows: three 20 in. diameter; thirty one 14 in. diameter; four 9 in. diameter; one 24 in. diameter; and four 1 ft. by 1 ft. reinforced glass windows in the ceiling.

The box contains two drum filters approximately 18 in. diameter by 6 in. wide. There is a steel trough which the filter sits in. This could be a potential holdup point. The box also has a pump, steel tubing, tygon tubing, valves, flow meters, two precipitators, a Ful-Flo canister, filters, tools, metal belt guards, and funnel. There is an estimated 2 ft^3 of tubing; 20 ft^3 of metal valves and piping; 3 ft^3 of drum filters; and 5 ft^3 of motors and drives external to the glovebox.

There are two intake filters which are clean. There are two exhaust filters. One filter is laying on top of equipment and is not sealed in place. The exhaust lines are labeled as having holdup (#2262 and 2265).

Two criticality drains are o.k., though one has external contamination.

The boxes are labeled as having 2.4 mRem/hour whole body and 4.1 mRem/hour extremity at the box.

There is a vacuum trap, VT15-1, measuring approximately 5 in. diameter by 2 ft. long.

Associated with Line 15 is its control panel which measures 3 ft. by 6 ft. by 2 ft. Next to this

panel is an evaporation control panel, also 3 ft. by 6 ft. by 2 ft. Adjacent to this panel on the floor is a pump box approximately 2-1/2 ft. by 1 ft. 2 in. by 1 ft. 2 in. This box is unpainted without shielding and has a hinged plexiglas cover allowing access to its interior which contains two small pumps of approximately 1/2 ft^3 in volume.

Line 8 and 9 are two connected gloveboxes. Line 8 and 9 is a split glovebox with two parallel sections connected at the west end by a section 2 ft. 5 in. long by 3 ft. 5 in. tall. These gloveboxes were used for calcined plutonium oxide (green cake) storage. The parallel sections measure approximately 16 ft. long by 4 ft. tall by 2 ft. 4 in. deep. The box has lead bolted onto the sides, lead tape on seams, and the outside is further shielded with Benelex and plexiglas. The two inch Benelex measures approximately 5 ft. 10 in. tall by 16 ft. long on each side of Line 8 and 5 ft. 10 in. tall by approximately 7 ft. long on the end of both gloveboxes. In addition there is 2 in. thick plexiglas shielding covering the windows measuring 16 ft. long by 2 ft. 2 in. tall on the front sides of both gloveboxes.

There are thirty eight 50 mil leaded gloves and two 9 in. bagout ports. There is no lead shielding covering the gloves. Note that four of the gloves are shielded with 1 ft. by 1 ft. by 2 in. Benelex doors. There are also gloves in some windows, as described below.

The glovebox has the following windows: six 4 ft. by 1 ft. 4 in. with leaded glass cover; two 4 ft. by 1 ft. 4 in. with leaded glass cover (with gloves); one 1 ft. 1 in. by 9 in. with leaded glass cover; one 1 ft. 2 in. by 6 in. with leaded glass cover; and four 8 in. by 2 ft. on top of the glovebox.

The material balance card says "0" grams SNM.

There are two pneumatic transfer lines to the box with associated transfer station. There are four steel storage trays approximately 4 ft. long by 8 in. wide with receptacles for holding containers. There is an estimated 5 ft^3 of trays. There are also metal shelves in both sections of Line 8 of approximately 8 ft^3 in volume. The floor has some residue and is slightly rusty on the bottom. There are two intake filters and four exhaust filters. The exhaust filter surfaces appear slightly damaged. The exhaust lines are labeled as having holdup (#3306).

The boxes are labeled as having 4.0 mRem/hour whole body and 13.0 mRem/hour extremity at the box.

There are no criticality drains on these two glovebox sections.

Line 8E is attached to Lines 8 and 9 at the east end. It is 2 ft. 7 in. wide by 6 ft. 9 in. long by 8-1/2 ft. tall. This section is unpainted with no lead shielding.

There are twelve 50 mil leaded gloves with steel port covers lined with 1/8 in. lead; one 9 in. bagout port with a similar port cover; and a 1 ft. 7 in. bagout port with a 2 ft. diameter port cover with 1/8 in. lead.

Inside the box is a transfer station for two vacuum transfer lines for transferring material in rabbits; a 30 ft. length of 1/2 in. braided steel cable; roll of tape, and brushes. There is an

46

estimated 1 ft^3 of material in the box not counting the cable.

The box is labeled as having 4.0 mRem/hour whole body and 13.0 mRem/hour extremity at the box.

The criticality drain appears o.k.

Line 11 is the evaporator for volume reduction and concentrating plutonium nitrate solutions from Line 15 precipitation. The box is 3 ft. 10 in. wide by 7 ft. tall by 15 ft. long. It is a waterwalled box with no paint and no lead shielding. It does have some paint on the east end to cover external contamination. The south end is roped off due to high levels of contamination.

The material balance card shows "0" grams SNM.

The box has sixty one 50 mil leaded gloves with 11 in. diameter by 2 in. deep painted water filled glove port covers.; one 9 in. bagout port with 11 in. diameter by 2 in. deep painted water filled glove port cover; and a 14 in. diameter bagout port with a 15 in. by 2 in. deep painted water filled glove port cover.

The box has the following windows: eleven 14 in. diameter with 1/2 in. plexiglas cover; thirteen 20 in. round with 1/2 in. plexiglas cover; two 1 ft. by 1 ft. reinforced windows on the roof; and two 2 ft. by 2 ft. reinforced windows on the roof.

The box has an evaporator approximately 6 in. diameter by 6 ft. tall by 4 ft. wide with two 6 in. by 2 ft. glass pieces. There is a 6 in. diameter by 6 ft. steel condenser in the box. There are two 6 in. diameter by 48 in. tall vacuum pickup columns and two 6 in. by 48 in. filtrate receivers (#525 and 526). There is a 4 in. by 2 ft. glass column. There is an estimated 30 ft^3 of metal piping, tanks, and valves; 5 ft^3 of glass; and 1 ft^3 of Tygon tubing and plastic.

The box floor is dirty and rusty and there is a puddle of sludge on the west end of the box.

The two inlet filters are clean. There are two exhaust filters. One is in place and clean. The other is lying on a piece of equipment and is not mounted in place. The exhaust lines are labeled as having holdup (#2312 and 2315)

The two criticality drains appear o.k.

The boxes are labeled as having 2.3 mRem/hour whole body and 6.0 mRem/hour extremity at the box.

There are insulated steam lines to the box which are not labeled as to insulation type.

There are two 5 in. diameter by 2 ft. long vacuum traps (VT11-1E and VT11-W).

There are two pencil tanks under the glovebox:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA

4/6

D529	1252	4"x12'	12 gal.	empty	no	no	PEN	N/A
D530	1253	4"x12'	12 gal.	empty	no	no	PEN	N/A

Line 14 (new feed evaporator line) is located just north of the old Line 14. It is 16 ft. long by 8 ft. tall by 3 ft. 8 in. wide. It is painted and has epoxied lead on the waterwalled box. All seams are lead taped.

There are seventy three 50 mil leaded gloves with 11 in. diameter by 2 in. deep painted waterfilled port covers; one 9 in. bagout port with 11 in. diameter by 2 in. deep painted waterfilled port cover; and one 17 in. diameter bagout port with a 18 in. diameter by 2 in. deep painted waterfilled port cover.

The box has the following windows: thirty six 14 in. diameter with 1/2 in. plexiglas covers; one 20 in. diameter with 1/2 in. plexiglas covers; and five 1 ft. by 1 ft. reinforced glass in the ceiling.

Inside the box is a metal feed evaporator approximately 6 in. diameter by 4-1/2 ft. wide by 5 ft. tall. with three 6 in. by 2 ft. glass sections; a metal condenser 6 in. in diameter by 6 ft. long; two feed tanks (D507 and D508), both 5 in. diameter by 96 in. long; and one 3 in. diameter by 2 ft. tall glass level indicator; Tygon tubing; tape; rusty tools; rubber hose; valves and piping; and an empty Ful-Flo canister. There is an estimated 30 ft^3 of metal components; 2 ft^3 of glass; and 2 ft^3 of rubber and plastic.

The bottom of the box is dirty with some material on the bottom.

There are two intake filters, both clean, and two exhaust filters which are clean. The exhaust line is labeled as having holdup (can't read numbers).

The box is labeled as having 1.1 mRem/hour whole body and 2.4 mRem/hour extremity at the box.

The two criticality drains appear o.k.

There is a steam and condensate line entering and leaving the glovebox. The insulation is not labeled as to type.

There are two pencil tanks located under the glovebox:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D509	1178	4"x12'	12 gal.	empty	no	no	PEN	N/A
D510	1179	4"x12'	12 gal.	empty	no	no	PEN	N/A

At the south east end of Line 14 is a "feed evaporator" control panel measuring 3 ft. wide by 6 ft. tall by 2 ft. deep.

Line 13 is a liquid transfer valve box. It is approximately 18 ft. long by 3 ft. wide by 5 ft. tall. It is painted with 1/4 in. lead epoxied on the bottom half of the box to approximately 2-

47

1/2 ft. up from the bottom on both sides and the end of the box. The box is labeled as RCRA Unit #771-2297.

The box has thirty 50 mil leaded gloves with 9 in. painted steel covers with 1/8 in. lead; ten booted glove ports; and one 9 in. bagout port.

The box has the following windows: ten 2 ft. 8 in. by 1 ft. with leaded glass cover; thirteen 2 ft. 2 in. by 1 ft. with leaded glass cover; four 9 in. round; and three 3 ft. by 8 in. in the roof.

The box has one 6 in. diameter by 2 ft. tall glass column; four 4 liter bottles containing 3.75 liters of solution and one bottle with 1 liter of solution; tools, and three Ful-Flo canisters. There is an estimated 20 ft^3 of metal components; 1 ft^3 of tygon tubing; and 1 ft^3 of glass.

The bottom of the box is dirty with black "grit" all over the bottom of the box.

There is one intake filter which appears clean. There are two exhaust filters which could not be visually examined. The exhaust lines are labeled as having holdup but the number could not be read.

The box is labeled as having 3.1 mRem/hour whole body and 13.1 mRem/hour extremity at the box.

The criticality drain appears o.k.

There is one vacuum trap, VT13-1N, measuring 5 in. by 2 ft.

Line 14 is attached to Line 13 and is the old evaporator line. It is approximately 12 ft. long by 3 ft. 10 in. wide by 8 ft. tall. It is painted with no lead shielding.

The box is listed as RCRA Unit #90.22.

There are seventy one 50 mil leaded gloves with no shielding and five 9 in. booted glove ports.

The glovebox has the following windows: four 4 ft. 6 in. by 1 ft. 6 in. with leaded glass covers; four 4 ft. 6 in. by 2 ft. with four gloves; one 4 ft. 6 in. by 1 ft. 2 in. with four gloves; one 2 ft. 6 in. by 1 ft. 2 in. with leaded glass cover; four 4 ft. by 10 in. in the ceiling; four 9 in. round; two 1 ft. by 2 ft. 6 in. with leaded glass covers; two 1 ft. 6 in. by 2 ft. 6 in. with leaded glass covers; two 4 ft. 6 in. by 1 ft. with leaded glass covers; one 2 ft. 4 in. by 1 ft. 8 in. with leaded glass cover; and two 1 ft. 6 in. by 2 ft. 6 in. with two gloves.

In the glovebox is a metal evaporator approximately 6 in. diameter by 3 ft. wide by 3 ft. tall with an upper section consisting of two 6 in. diameter by 2 ft. glass sections. There are two feed tanks (507 and 508) which are 5 in. diameter by 8 ft. long; a condensate tank 6 in. diameter by 3 ft. long; a 3 in. diameter by 2 ft. tall glass level indicator tube; tape; and tools. There is an estimated 20 ft^3 of metal components; 2 ft^3 glass; and 1 ft^3 other miscellaneous items. There are two distillate tanks, 509 and 510, measuring 4 in. diameter by 12-1/2 ft. long each.

There are three intake filters which appear clean. There are two exhaust filters which appear clean. The exhaust line is labeled as having holdup (the numbers could not be read).

The box is labeled as having 3.1 mRem/hour whole body and 13.1 mRem/hour extremity at the box.

There are insulated steam condensate and return lines connected to the glovebox. The insulation is not labeled as to type.

There is a control panel for this line located on the southeast wall measuring 2 ft. 4 in. by 3 ft. by 8 in. deep; an electrical panel 2 ft. 6 in. wide by 3 ft. by 15 in. deep; a steel table 1 ft. 6 in. wide by 4 ft. long by 3 ft. 2 in. tall; and an electrical panel 2 ft. 6 in. by 3 ft. by 9 in. deep.

There are feed and filtrate evaporator tanks in a tank farm south of the old Line 14:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D506	1241	5"x8'	8 gal.	empty	no	yes	PEN	N/A
D505	1240	5"x8'	8 gal.	empty	no	yes	PEN	N/A
D504	1239	5"x8'	8 gal.	empty	no	yes	PEN	N/A
D503	1238	5"x8'	8 gal.	empty	no	yes	PEN	N/A
D502	1237	5"x8'	8 gal.	empty	no	yes	PEN	93.003
D501	1236	5"x8'	8 gal.	empty	no	yes	PEN	93.002
D500	1235	5"x8'	8 gal.	empty	no	yes	PEN	93.001

Note: These tanks have external contamination.

There is an 8 ft. tall, 8 in. thick concrete wall 22 ft. in length with two 3 ft. by 8 ft. tall doors of painted 4 in. Benelex shielding. The west door has a workstation bolted to the door approximately 3 ft. wide by 2 ft. by 3 ft.

There is a tank farm located north of Line 13:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D545	1119	2'8"x7'	39 gal.	empty	yes	yes	AN	93.015
D544	1120	2'8"x7'	42 gal.	empty	yes	yes	AN	93.014

The tanks are shielded on three sides with 4 in. thick painted Benelex which is 6 ft. tall by 18 ft. in length.

East of the tank farm is a refrigeration unit containing two Dunham-Bush 1-1/2 ton compressors of 4 liters in volume each; two condensors 6 ft. long; one dryer 2 in. by 4 in.; and one heat exchanger 3 in. by 10 in. The system is mounted in a metal stand with a 1/4 in. plexiglass casing and measures 3 ft. by 2 ft. by 5 ft. There is an estimated 15 ft^3 of material.

There is a tank farm located east of Line 16:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA

2/9

D0949	1103	42"x7'	55 gal.	empty	no	no	AN	93.029
D0950	1104	42"x7'	59 gal.	empty	no	no	AN	93.152
D0951	1105	42"x7'	58 gal.	empty	no	no	AN	93.030
D0952	1106	42"x7'	57 gal.	empty	no	no	AN	93.031
D0953	1107	42"x7'	57 gal.	empty	yes	no	AN	93.032
D0954	1108	42"x7'	57 gal.	empty	no	no	AN	93.033
D0955	1109	42"x7'	58 gal.	empty	no	no	AN	93.034
D0546	1110	3'x7'	43 gal.	empty	yes	no	AN	93.016
D0547	1111	3'x7'	40 gal.	empty	yes	no	AN	93.017
D0553	1112	5'x7'	85 gal.	empty	no	no	AN	93.023
D0554	1113	5'x7'	82 gal.	empty	no	no	AN	93.024

The tank farm is shielded by 4 in. thick painted Benelex 6 ft. tall by 42 ft. long. The back of the Benelex shielding is covered with 1/8 in. lead sheet which is bolted on.

There is a desk attached to the northwest side of the Benelex measuring 3 ft. by 2-1/2 ft. by 1-1/2 ft.

Line 12 measures 3 ft. wide by 2 ft. 8 in. deep by 2 ft. 10 in. tall. It has no paint and no shielding.

There is a material balance card which reads "0" grams SNM. Inside the box are hand tools, a glass flask, and an empty 4 liter plastic bottle - estimated volume of 1/2 ft^3. There is an estimated 1 ft^3 of valves, fittings and pipe.

The box has two 50 mil leaded gloves and a 12 in. bagout port.

The box has the following windows: one 6 in. by 1 ft.; two 3 ft. by 1 ft.; and one 8 in. by 3 ft reinforced in the ceiling.

There is one intake filter which is clean and one exhaust filter which is clean. The exhaust line is labeled as having holdup (#2979).

There is one criticality drain which is o.k.

The box is labeled as having <1.5 mRem/hour whole body and <1.5 mRem/hour extremity at the box.

There is a control panel on the south side of the tank farm measuring 3 ft. by 3-1/2 ft. by 10 in. deep. There is a wall mounted rack next to the panel containing a fire blanket (material unidentified).

There is a vacuum trap, VT12-2S, measuring 5 in. diameter by 2 ft.

Line 4 is approximately 4 ft. long by 4 ft. tall by 3 ft. wide. It is painted, but has no shielding.

The box has six 50-mil leaded gloves with three in windows. There is one 14 in. glovebag. None

have shielding.

The box has the following windows: one 3 ft. 2 in. by 2 ft. 8 in. with three gloves; one 1 ft. 2 in. by 6 in.; and two 11 in. by 1 ft. 4 in.

Inside the glovebox is a motor and fan assembly (estimated volume 15 ft^3, a roll tape, and a small metal scoop. The floor is relatively clean.

The outside of the box is heavily labeled with fixed contamination labels, one to 100,000 dpm/100 cm^2.

There is one intake filter and a dirty exhaust filter. The exhaust line is labeled as having holdup (#2961).

The box is labeled as having 3.7 mRem/hour whole body and 4.2 mRem/hour extremity at the box.

Line 22 is a "burning line" which measures 3 ft. wide by 3 ft. 10 in. tall by 5 ft. long. It is painted with lead shielding (epoxied on). It is listed as RCRA Unit #771-1713.

The box has sixteen 50 mil leaded gloves; one 9 in. bagout port; and one 12 in. bagout port with a 16 in. leadlined steel cover.

The box has the following windows: one 1 ft. by 1 ft.; five 1 ft. 4 in. by 8 in.; two 2 ft. 6 in. by 1 ft. 6 in.; one 2 ft 4 in. by 1 ft. - all with leaded glass covers over polycarbonate. There are also three 12 in. by 2 ft. 2 in. windows in the ceiling.

There are three 8801 Volrath cans which could not be visually inspected inside. There is a Material Balance card showing a container of IDC H61 and two vials, IDC 061.

Inside the box are two burning pans 8 in. diameter by 1 in. high; a screen, miscellaneous tools (1 ft^3); a scale and weights, and two hot plates (1 ft^3). The floor is fairly clean with only a small amount of residue.

The box has one clean inlet filter and one clean exhaust filter. The exhaust line is labeled as having holdup (#2427).

The box is labeled as having 2.4 mRem/hour whole body and 4.4 mRem/hour extremity at the box.

There is one criticality drain which appears o.k.

Line 9A is unpainted with no lead shielding. The box is approximately 4-1/2 ft. long by 2 ft. wide by 2 ft. tall and contains an H-4 Nash pump. The box sits on a 5 ft. by 3 ft. by 2 ft. concrete pedestal. The box, pump, and motor rest on a 7 ft. long by 2 ft. wide by 6 in. tall steel platform.

51

The box has seven 50-mil leaded gloves with no shielding. There is one 9 in. bagout port and one 14 in. bagout port.

The box has nine 1 ft. by 6 in. windows.

The box has several tools, rolls of tape, Tygon tubing and a pump. Estimated volume of metal components is 8 ft^3. There is an external motor, volume approximately 5 ft^3. The floor appears relatively clean.

The box is labeled as having 3.7 mRem/hour whole body and 4.0 mRem/hour extremity at the box.

The box has one intake filter and one exhaust filter. Both appear clean. The exhaust line is labeled as having holdup (#2967).

The criticality drain appears o.k.

There is an associated mist tank:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
967	1115	24"x48"	12 gal.	empty	no	yes	AN	N/A

Note: The drain lines are labeled as having solution holdup.

There also is an associated heat exchanger approximately 6 in. diameter by 32 in. long (NDT #1254). There is external contamination on the east end. The piping to and from the exchanger is insulated. It is not labeled as to insulation type.

There is a pump control panel for the south Nash pump measuring 2 ft. 6 in. by 3 ft. by 1-1/2 ft. In addition there is an estimated 4 ft^3 of additional instrumentation attached to this panel.

West of this panel is another mist tank:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
6	1114	18"x36"	13 gal.	empty	no	no	AN	N/A

Note: The drain lines are labeled as having solution holdup.

Line 5A is similar to Glovebox 9A and was the vacuum system for Line 16 and Line 5. It is approximately 4-1/2 ft. long by 2 ft. wide by 2 ft. tall. The box is painted, but has no shielding. The box sits on a 5 ft. by 3 ft. by 2 ft. concrete pedestal. The box, pump, and motor rest on a 7 ft. long by 2 ft. wide by 6 in. tall steel platform.

The box has seven 50-mil leaded gloves with no shielding. There is one 9 in. bagout port and one 14 in. bagout port.

The box has nine 1 ft. by 6 in. windows and one 2 ft. by 1-1/2 ft. window with two gloves.

52

The box has several tools, rolls of tape, Tygon tubing and a pump. There also is a small plastic unlabeled container with approximately 1/2 pint of liquid (oil?) and a Ful-Flo filter canister. Estimated volume of metal components is 9 ft^3. There is an external motor, volume approximately 5 ft^3. The floor is somewhat dirty with a film of liquid on the bottom.

The box is labeled as having 2.3 mRem/hour whole body and 2.5 mRem/hour extremity at the box.

The box has one intake filter and one exhaust filter. Both appear clean, though the face of the exhaust filter appears damaged. The exhaust line is labeled as having holdup (#1328).

There also is an associated heat exchanger approximately 6 in. diameter by 32 in. long (NDT #1255). There is external contamination of 15,000 dpm/100 cm^2. The piping to and from the exchanger is insulated. It is not labeled as to insulation type.

The criticality drain appears o.k.

Drums - The following drums are currently being stored in Room 114:

East of IIne 8E - 6 drums (one, IDC 370; two IDC 409; two IDC 336; one IDC 802).

East of Line 16 - 23 drums (one IDC 335; one IDC 368; three IDC 486; two IDC 442; three IDC 824; two IDC 301; six IDC 484; two IDC 824; two IDC 300; one IDC 802).

East of Line 14 - 10 drums (one IDC 486; one IDC 484; four IDC 480; one IDC 862; one IDC 824; one IDC 489; one IDC 486)

South of Line 14 - 7 drums (three IDC 486; one IDC 484; two IDC 824, one IDC 489)

West of Line 15 - 9 drums (one IDC 824; one IDC 440; one IDC 491; three IDC 484; one IDC 486; two IDC 480)

North of Line 6 - 10 drums (one IDC 862; one IDC 802; one IDC 484; one IDC 487; three IDC 300; one IDC 440; one IDC 431; one IDC 480)

West Line 7 - 6 drums (one IDC 442; one IDC 824; three IDC 480; on unlabeled - containing FU2A video probes)

West of GB 22 - 3 drums (two IDC 824; one IDC 484)

East of GB 4 - 4 drums (two IDC 480; one IDC 481; one IDC 336)

North GB 5 - 6 drums (one IDC 822; two IDC 824; one IDC 480; two IDC 486)

West of GB 5 - 3 drums (one IDC 321[RCRA 90 day #771-1722]); one IDC 336[RCRA 90 day #771-1776]); one IDC 442)

53

South of GB 5 - 2 drums (one IDC 331; one IDC 893)

South of Line 2 - 9 drums (one IDC 336; one IDC 337; six IDC 480; one IDC 438)

North of Line 7 - 12 drums (two IDC 336; two IDC 491; four IDC 330; two IDC 337; one IDC 440; one IDC 480)

East of Line 3 - 19 drums (one IDC 438; one IDC 374; one IDC 822; one IDC 335; one IDC 337; one IDC 484; two IDC 862; one IDC 430; four IDC 431; three IDC 336; one IDC 330; one ring change tools; one leached resin)

South of GB 7A - 2 drums (one IDC 862; one IDC 480)

SE of GB 18 - 8 drums (one IDC 862; one IDC 300; two IDC 442; two IDC 480; one IDC 337; one IDC 487)

North of Line 3 - 1 drum (IDC 480[RCRA 90 day #771-1891])

West of Line 3 - 28 drums (seven IDC 442; two IDC 822; five IDC 480; one IDC 489; one IDC 431; one IDC 824; one IDC 336; two IDC 440; two IDC 337; one IDC 479; one IDC 342; one IDC 335; one IDC 330; one IDC 862; one unlabeled as to IDC.

NW of Line 3 - 1 full crate TRU IDC 480; 1 steel box IDC 480 (partially full)

E of Line 1 - 34 drums (two IDC 330; four IDC 491; one IDC 490; three IDC 480; five IDC 342; two IDC 484; one IDC 822; one IDC 862; four IDC 336; five IDC 335; two IDC 337; one IDC 861; one IDC 374; one IDC 331; and one labeled "asbestos filters")

W of Line 1 - 30 drums (one IDC 486; twelve IDC 862; four IDC 480; one IDC 302; two IDC 300; one IDC 825; one IDC 822; one IDC 827; one IDC 337; two IDC 442; one IDC 824; one IDC 368; one IDC 440; one unknown)

54

Room 114A - Category B

Line18 is the H-6 Nash pump box for the house vacuum. The box is 12 ft. long by 6 ft. tall by 3 ft. wide. It is non-leadlined and is unpainted with the exception of painted areas on the north and south side which apparently cover surface contamination. The box houses two large Nash vacuum pumps. The two 60 h.p. motors which service the pumps are located outside the box at both ends. The motors and glovebox are mounted on a steel platform and i-beams approximately 20 ft. long by 30 in. wide by 6 in. tall which in turn are mounted on two concrete pedestals 6 ft. by 3 ft. by 32 in. The pumps are out of service.

The box has thirty four 50 mil leaded gloves; 10 booted gloveports; one 24 in. bagout port on the east end and two 9 in. bagout ports.

The box has the following windows: fourteen 9 in. round; seven 8 in. by 30 in.; eighteen 6 in. by 12 in.; four 12 in. by 30 in.; and twelve 14 in. by 8 in. In addition there are five 2 ft. by 8 in. reinforced windows on top.

Inside the box are the two Nash vacuum pumps; a Ful-Flo filter; chain; tools; and hoist. The items in the box and the bottom of the box are rusty.

The box has two exhaust filters. The filter surfaces are damaged and the filters are not properly seated and are open directly to the exhaust line. The exhaust lines are labeled as having holdup (#453 and 455).

There is a criticality drain which appears o.k.

The box is labeled as having 1.2 mRem/hour whole body and 1.6 mRem/hour extremity at the box.

There is a tank farm located adjacent to Line 18 with the following tanks:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D72	1170	3'x4'	95 gal.	empty	no	yes	RR	N/A
D73	1171	3'x4'	95 gal.	empty	no	yes	RR	N/A
D70	1168	3'x4'	95 gal.	empty	no	yes	AN	N/A
D71	1169	3'x4'	95 gal.	empty	no	no	AN	N/A

There are also two associated heat exchangers, both approximately 2 ft. long by 8 in. wide 9NDT # 1172 and 1173.

Both tanks D72 and D73 are labeled has having solution in the lines to the tanks.

There is an estimated 1 crate worth of associated piping, valves, sight gages.

There are insulated steam pipes overhead which are not labeled as to the type of insulation, though they appear to be covered with fiberglass.

Room 114B - Category A

Line 17 is the new fluoride reduction line for conversion of plutonium tetrafluoride to plutonium metal. The line is a single glovebox divided into several sections which were used for the receiving, reduction, button breakout, and sampling. The box is approximately 48 ft. long by 3 ft. tall by 3-1/2 ft. deep. It is a waterwalled box with no lead shielding and no paint.

The box has forty nine three 50 mil leaded gloves, each with waterfilled glove port covers which measure 11 in. by 4 in.; forty two 50 mil leaded gloves, each with waterfilled glove port covers which measure 11 in. by 2 in.; two 9 in. bagout ports with 11 in. by 2 in. waterfilled glove port covers; one 9 in. boot with 11 in. by 2 in. waterfilled glove port cover; one 17 in. bagout port with an 18 in. by 4 in. waterfilled glove port cover; and one 14 in. bagout port with a 15 in. by 4 in. waterfilled glove port cover.

The box has the following windows: sixteen 20 in. diameter circular windows; fourteen 15 in. diameter circular windows; and five 9 in. diameter circular windows. The windows appear to be leaded glass.

Section BB3 contains a drill press (1 ft^3); roll of tape, and has a penetration for an external Mettler balance. The floor appears clean.

There is a criticality drain which appears o.k.

There are two exhaust filters. The exhaust line is labeled has having holdup (#1391 and 1393).

Section BB2 has a Ful-Flo filter canister, piping, valves, a metal pan, a button leaching stand (approximately 2 ft^3). The floor appears clean.

There is a criticality drain which appears o.k.

Section BB1 has a hot plate, heat detector storage unit (empty), a stainless steel can containing paint brushes and tools, rusty tools, and assorted metal pieces (estimated volume of 3 ft^3). There is a small amount of residue on the floor and on a small shelf.

Section 17D contains five small lead "lids" approximately 1/2 in. by 4 in. by 1/8 in. thick, and eight reduction vessels approximately 12 in. by 6 in. by 1/2 in. thick, and miscellaneous metal (approximately 5 ft^3).

Section 17C contains two reduction furnaces (K1 and K2) and hydraulic fixtures. The furnaces and press components have an estimated volume of 5 ft^3. Note: There is oil on the floor which has leaked from the hydraulic unit associated with K1. The glovebox floor has a small amount of debris.

The criticality drain under this section appears o.k.

There is a small vacuum pump located on the floor under this section. It is likely contaminated inside.

Section 17B has a rusty drill and tools; a pass through on the back of the box for MgO crucibles (one still in place); and a vacuum cleaner. The estimated volume of metal items in this section is 3 ft^3.

Section 17A has two pneumatic transfer lines and a transfer station. There are two metal carrousels (4 ft^3), two rolls of 1/2 in. braided steel cable (2 ft^3); a heat gun and miscellaneous metal pieces (2 ft^3). Under this section there is an external pneumatic control cabinet approximately 4 ft. by 3 ft. by 2 ft. containing rotometers, valves, and pipe totalling approximately 3 ft^3.

There is an exhaust filter in this section which has its surface damaged. The exhaust line is labeled as having holdup (#1376). There is an inlet filter on the end of this section which is clean.

Located behind the glovebox are two hydraulic units approximately 8 in. by 5 ft. long. There are also two cabinets (heat exchangers?) approximately 2 ft. by 3 ft. by 3 ft. mounted on the wall behind and above the glovebox.

Against the north wall there is a wall cabinet approximately 2 ft. by 1-1/2 ft. by 2-1/2 ft. which contains copper rings, lamp bulbs, filter cloths, vacuum grease, tools, and chart paper (approximately 3 ft^3).

There is a bench at the northwest wall 4 ft. by 3 ft. by 3 ft. which has two can sealers, lids, cans, forms, a transfer rabbit, desk lamp, length of chain, 1/2 pint of "scale oil"; three empty paint cans, one 4-liter plastic bottle (empty); plastic bags, and electronic equipment (approximately 5 ft^3).

There is a wall mounted cabinet on the north wall 6 in. deep by 1 ft. by 1-1/2 ft. which is labeled "initiators". The cabinet is empty. There is another wall mounted cabinet 6 in. deep by 1 ft. by 2-1/2 ft. labeled "calcium metal". This cabinet is also empty.

There is a bottle of nitrogen gas on the east wall. Next to it is a fire blanket on a wall mounted shelf. The blanket has no label and its composition is unknown.

There is an oxygen analyzer cabinet on the northeast wall approximately 6 ft. by 1 ft. by 2 ft.

In the southeast corner is a storage cabinet 6 ft. tall by 3 ft. wide by 18 in. deep which contains empty Volrath cans, tools, wire, lead tape, and plastic bags. (approximately 15 ft^3).

The box is labeled as having 1.2 mRem/hour whole body and 2.3 mRem/hour extremity at the box.

The following drums were located in Room 114B:

51

East of Line 17D - 6 (three IDC 480; one IDC 823; one IDC 431; one IDC 824)

58

Room 112 - Category D

Against the north wall are two TEK reduction furnace power supplies, each 4 ft. wide by 4 ft. tall by 3 ft. deep. Next to the west wall of the room is a control panel 4 ft. by 4 ft. by 2-1/2 ft. Next to the west wall is a 480V power supply cabinet approximately 4 ft. wide by 6 ft. tall by 18 in. deep. On the east wall is a wall mounted liquid level alarm panel 3 ft. by 3 ft. by 1 ft.

In the southwest corner is a storage cabinet 6 ft. tall by 3 ft. wide by 18 in. deep containing tools, empty quart plastic bottles, an empty one liter bottle, "scale oil", vacuum grease tubes, and other miscellaneous items. There is an estimated 5 ft^3 of materials in the cabinet.

There are two large oven cabinets for drying MgO crucibles. One cabinet is 3-1/2 ft. wide by 3 ft. deep by 7 ft. tall and contains approximately fifty MgO crucibles. There is a 4 liter plastic bottle stored in the oven containing broken pieces of crucible as well as a plastic bag of sample vials. The other oven is 3 ft. wide by 2 ft. deep by 7 ft. tall and contains approximately fifty MgO crucibles.

In the east corner of the room are two storage cabinets each 3 ft. wide by 6 ft. tall by 18 in. deep containing tools, pans, cans, valves, MgO sand, oxygen filters, electrical cord, chem wipes, plastic, a vacuum cleaner and other miscellaneous items. The estimated volume of these items is 18 ft^3.

The following drums were located in room 112:

SE corner - 3 (two IDC 480; one IDC 342)

59

Room 146A - Category A

Line SR-12 is the fluoride volatility line (fluid bed fluorinator). This line is approximately 22 ft. long by 3 ft. wide by 10-1/2 ft. high. It is completely covered with painted 2 in. Benelex shielding on two sides and the end, including the windows. There is also a waterwall surrounding the glovebox. This line was installed approximately 1972 and was in operation for about 4 years and was a prototype being evaluated for separating and purifying plutonium.

The gloves are all capped with sheet metal and opening the Benelex doors to the windows and gloves is discouraged due to the deteriorating and poor condition of the gloves. Consequently, minimal visual inspection was done in this line.

The water wall is filled with water and sodium chromate and there is evidence of some minimal leakage on the room floor. The walls are steel and are 8 in. thick, 12 ft. tall, and approximately 38 ft. long with two doors approximately 7 ft. tall and 3-1/2 ft. wide. There are two water filled windows in the wall approximately 2 ft. 10 in. by 1 ft. 8 in. with 1 in. plexiglas covers on each side of the wall.

There is an estimated one hundred sixty gloves and three 14 in. bagout ports.

Windows are estimated to take up 85% of the square footage of both sides of the line with leaded glass on the outside. All the windows observed had gloves in the windows.

There were at least four small airlocks near the floor with one large 2 ft. cubed airlock on the north end. The airlock could not be visually inspected.

There is no material balance card.

The box is divided into three sections. The north section contains the thermal decomposition reactor, four separating filters, and a product transfer vessel. The center section contains the fluid bed reactor for generating PuF_6 and two sodium fluoride traps. The south section contains four cold traps. There is an estimated 150 ft^3 of materials in the glovebox, primarily metal including some large items such as the primary reactor and cold traps. There are rusty tools, some cans, and evidence of past spills on the glovebox floor. There is the potential for asbestos insulation in the line. There have been reports of "viscous liquid" draining back out of the exhaust lines during operation. Along with the considerable amount of plutonium processed through this line, **this system is a candidate for considerable holdup.**

The intake and exhaust filters are not convenient for visual inspection. The exhaust line on the north end is labeled as having holdup (#2773).

Criticality drains should be present and also could not be visually inspected.

The box is labeled as having 6.4 mRem/hour whole body and 30.0 mRem/hour extremity at the box on the outside of the Benelex.

There are five 6 in. diameter by 8 ft. tall "traps" or "scrubber tanks" located on the north end

60

of the line connected to FU-2, Zone 7. Each of these tanks has a holdup tag (#2858, 2152, 2844, 2837, and 2830). These "tanks" also have their own criticality drain which appears o.k.

Inside the water wall at the north end of the line is a stand-alone clamshell test reactor unit approximately 1 ft. 8 in. diameter by 4 ft. 8 in. tall. There could be possible asbestos insulation internally. There is a 1-1/2 ft. by1-1/2 ft. by 1-1/2 ft. temperature recorder sitting on the floor next to the reactor unit. On the ceiling above the reactor unit are four steel Cuno filter canisters, two with copper coils and 4 liter empty polyethylene bottles attached. Stacked behind the glovebox are approximately 25 ft^3 of scaffolding and ladders.

There is a control panel for the fluid bed fluorinator outside the water wall measuring 14 ft. long by 2-1/2 ft. deep by 6-1/2 ft. tall. The cabinet has a HEPA exhaust filter on top. The filter cannot be visually inspected. The exhaust line is labeled as having holdup (#2890). There is an estimated 8 ft^3 of associated instruments located on top of the cabinet.

There is a pneumatic control panel (on wheels) measuring 2 ft. 4 in. by 2 ft. 4 in. by 7 ft. tall. This panel is disconnected.

There are two wall cabinets on the east wall, both 4 ft. by 2-1/2 ft. by 1 ft. One is locked and could not be visually inspected. The other is full of log books, historical and experimental data, and blueprints of the fluoride volatility unit. **These records should be removed and placed in safe keeping.**

On the east wall are several electrical panels:

1 - 2 ft. 9 in. by 7 ft. by 1 ft. 480V switch panel
1- 1 ft. by 1 ft. 10 in. by 6 in. 480V fuse box
1- 1ft.8 in. by 3-1/2 ft. by 6 in. switch box
1- 2 ft. by 4-1/2 ft by 9 in. switch box
1 - 4 ft. 9 in. by 6 ft. by 1 ft. 4 in. power panel

There is a building sump pump well and cover in the floor in the southeast corner of this room.

There is a vault in the southwest corner of the room with a 2 in. water wall measuring 7 ft. tall by 24 ft. in length. The vault was locked and could not be visually inspected. There was no material balance card suggesting that there is no SNM in storage.

Line SR-11 is approximately 6-1/2 ft. long by 6-1/2 ft. tall by 4 ft. wide. The box is divided into two sections - upper and lower. The top half of the box (2-1/2 ft.) has lead shielding bolted on all four sides and is painted.

The box has twenty 50 mil leaded gloves, eight of which have sheet metal covers and six with 9 in. diameter lead-lined steel covers. All the gloves are located in windows. There are two 14 in. bagout ports with sheet metal covers and three 9 in. bagout ports.

The box has the following windows: four 2-1/2 ft. by 2 ft., two with two gloves and two with 9 in. bagout ports, covered with leaded glass; two 2-1/2 ft. by 1 ft. 4 in., one with two gloves,

one with one glove and one 9 in. bagout port, covered with leaded glass; and two 2-1/2 ft. by 3 ft. 3 in. with four gloves; and one 2 ft. by 4 ft. reinforced window on top.

There is also a 2 ft. cubed airlock which could not be visually inspected.

The top section of the box has white, salty material on the floor and equipment as well as a small puddle of salt and rust. The equipment in the box is rusty and the gloves are in very bad shape. There is an 8 in. by 12 in. waterwalled container in the box which could not be visually inspected; a 1 ft. by 1-1/2 ft. by 1 ft grinding mill; and an unknown piece of equipment 1 ft. by 1 ft. by 8 in. with motor and stand; and two 8801 Volrath cans.

The lower section has approximately 15 ft^3 of piping, equipment, and valves. The floor has some debris on it.

The box is labeled as having 8.5 mRem/hour whole body and 22.5 mRem/hour extremity at the box.

There are two dirty intake filters. There are two exhaust filters which could not be visually inspected. The exhaust lines are labeled as having holdup (#2815 and 2786).

The two criticality drains appear o.k.

There is an associated pneumatic control panel approximately 2-1/2 ft. by 3 ft. by 1 ft. and a control panel 1 ft. 4 in. by 1 ft. 8 in. by 10 in. mounted to the east room wall.

62

Room 148 -Category D

This room has ten annular leadlined, painted storage tanks which are fastened to the floor and have never been used.

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
1976	?	42"x89"	79 gal.	empty	yes	yes	AN	N/A
1977	1333	42"x89"	79 gal.	empty	yes	yes	AN	N/A
1978	1332	42"x89"	79 gal.	empty	yes	yes	AN	N/A
1979	1331	42"x89"	79 gal.	empty	yes	yes	AN	N/A
1984	1330	42"x89"	79 gal.	empty	yes	yes	AN	N/A
1987	1329	42"x89"	79 gal.	empty	yes	yes	AN	N/A
1990	?	42"x89"	79 gal.	empty	yes	yes	AN	N/A
1991	?	42"x89"	79 gal.	empty	yes	yes	AN	N/A
1992	?	42"x89"	79 gal.	empty	yes	yes	AN	N/A
1993	?	42"x89"	79 gal.	empty	yes	yes	AN	N/A

The room is also used for storage and includes hot air movers, tool boxes, a full crate of waste IDC 480, cabinets with tools, welding units, a bagged drum liner with 10,000 dpm/100 cm^2 of activity, and miscellaneous items and furniture. There is an estimated 500 ft^3 to 1000 ft^3 of miscellaneous items in the room.

Room 141 - Category C

This room is highly contaminated, sometimes referred to as the "infinity room". The contamination resulted from leaking pumps which soaked into the concrete pedestals and floor. This room is currently sealed off and is labeled as having 7 mRem/hour whole body and 26 mRem/hour extremity external to the room. The room currently contains 16 fiberpacks, presumably containing concrete rubble and miscellaneous material from prior decontamination efforts in this room. There are two large concrete pedestals with rebar still remaining and measuring approximately 5 ft. by 3 ft. by 3 ft and 3 ft. by 3 ft. by 3 ft. respectively. The floor is lettered with concrete debris from attempts to size reduce and remove the pedestals. There are two ladders in the room and miscellaneous tools and electrical cord (approximately 2 ft^3).

Room 181A - Category A

This room is identified as RCRA ID# 90.23.

Line SR-14 was used for solvent extraction separation of plutonium and uranium. The line is 8 ft. tall by 10 ft. long by 2 ft. wide. The box is painted and lined with lead shielding which is epoxied on.

The box has forty nine unshielded 50 mil leaded gloves and a 14 in. bagout port with a 14 in. lead-lined steel cover.

The box has the following windows: fifteen 1 ft. by 1 ft.; one 6 in. by 1 ft.; five 1 ft. by 18 in.; four 8 in. by 1 ft.; one 2 ft. by 1 ft. reinforced and two 1 ft. by 1 ft. reinforced in the ceiling.

There is one intake filter which is dirty and one exhaust filter which looks clean. The exhaust line is labeled as having holdup (#8109).

There is one criticality drain which appears o.k.

There is a Material Balance card which identifies four liters of solution (IDC unknown) in a 20 liter tank, Tank #1408. This tank and its location was not determined.

Inside the box there is one 6 in. by 6 ft., three 4 in. by 6 ft., one 4 in. by 1 ft., and one 3 in. by 1 ft. glass columns. There is an estimated 6 ft^3 of glass. There are also three small pumps (2 ft^3 with associated piping), three metal Ful-Flo canisters, and Tygon tubing, valves and plastic pipe (5 ft^3). There is considerable debris on the floor, some sludge, and some liquid on the bottom of the box. There are some corroded fittings and evidence of leakage into the box. There are approximately 10 ft^3 of motors and belt guards external to the box.

The box is labeled as having 1.1 mRem/hour whole body and 2.2 mRem/hour extremity at the box.

East of Line SR-14 are five 30 gallon carboys, two containing 1M sodium carbonate and three containing ammonium sulfate.

There is an associated tank farm containing the following tanks:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D1401	1081	36"x48"	32 gal.	empty	no	no	AN	N/A
D1402	1080	36"x48"	32 gal.	empty	no	no	AN	N/A
D1414	1082	24"x36"	21 gal.	empty	no	no	AN	N/A
D1415	1083	24"x36"	21 gal.	empty	no	no	AN	N/A
D1406	1342	6"x14'	21 gal.	empty	no	no	PEN	N/A
D1407	?	6"x14'	21 gal.	empty	no	no	PEN	N/A
D1409	1339	6"x14'	21 gal.	empty	no	no	PEN	N/A
D1411	1341	6"x14'	21 gal.	empty	no	no	PEN	N/A

64

D1410	1340	5"x84"	21 gal	empty	no	no	PEN	N/A

Though not labeled, there is likely solution in the tanks and tank bottoms. There is an estimated 20 ft^3 of associated fittings, sight gauges and valves.

There is a fume scrubber system. The scrubber column, Tank 1400 (NDT #1321) is approximately 2 ft. in diameter and 11 ft. tall, and has an outer fiberglas coating. The first three feet of the column is filled with Raschig rings. Though the tank appears empty, the rings have considerable salt buildup. In the top section are plastic saddles, also with considerable salt buildup.

Associated with the scrubber is a chiller system with three horizontal tanks. Two tanks are approximately 9 in. diameter by 9-1/2 ft. long (NDT # 1316 and 1318) and one tank is approximately 4 in. diameter by 9 ft. long (NDT # 1317). All are covered with insulation which is not labeled as to type.

It is estimated that the scrubber, chiller, and associated piping and valves would fill at least two full crates.

There are two control panels west of Line SR-14 measuring 7 ft. by 3 ft. by 3 ft. and 6-1/2 ft by 2 ft. by 1-1/2 ft.

There are two storage cabinets on the east wall measuring 6-1/2 ft. by 3 ft. by 1 ft. 4 in. One cabinet contains miscellaneous electronics, motors, control boxes, Tygon tubing and miscellaneous items including two bottles of oil (approximately 3 pints). Estimated volume approximately 10 ft^3. The other cabinet is locked and inaccessible.

Also on the east wall are the following power panels: four 480V 2 ft. by 10 in. by 9 in.; one 2 ft. 9 in. by 1 ft. 2 in. by 10 in.; one 3 ft. by 16 in. by 8 in.; and one transformer 3-1/2 ft. by 1-1/2 ft. by 3 ft.

There are two carts, a drum lid opener, and miscellaneous furniture of approximately 25 ft^3.

There is a locked storage cabinet 3 ft. by 6 ft. by 1 ft.

The room has the following drums:

East corner - 3 drums (two IDC 480; one IDC 331)
10 drums (five IDC 480; two IDC 862; one IDC 438; one IDC 200; one IDC 491)

South center -2 drums (one unknown; one IDC 480). In addition there is one drum, IDC 321, in RCRA unit #771-1935)

West side - 4 drums (one IDC 330; one IDC 863; one IDC 303; one IDC 491)

Center - 6 drums (four IDC 832; one IDC 290; and one IDC 331)

W5

- 18 drums (one IDC 421; two IDC 832; ten IDC 290; two IDC 299; one IDC 541; two IDC 331)

- 16 drums (eight IDC 290; four IDC 331; two IDC 420; one IDCC 337; one IDC 299)

- 17 drums (eleven IDC 331; five IDC 290; one IDC 832)

- 21 drums (eighteen IDC 331; three IDC 290)

There are also five metal drip pans approximately 4 ft. by 4 ft. with a 1 in. lip. There is a stack of rubber floor mats approximately 3 ft. by 3 ft. by 2 ft. There is approximately 20 ft^3 of metal angle iron used to support drums off the floor.

lel

Room 182 - Category A

This room is the plutonium metallurgy laboratory.

Line 214 is located against the east wall. It is approximately 8 ft. long by 4 ft. 5 in. tall by 2 ft. wide. It is painted and has lead shielding.

The box has nine unshielded 50 mil leaded gloves, one 18 in. bagout port; one 9 in. bagout port, and two gloveports have boots. The box has a 14 in. by 16 in. by 16 in. airlock which could not be visually examined.

The box has the following windows: two 3 ft. 6 in. by 2 ft. 2 in.; one 3 ft. 6 in. by 3 ft.; and two 3 ft. by 1 ft. on the top.

The Material Balance card shows the box containing five 4 liter bottles of IDC 533 (one bottle has only 3 liters of solution).

The box has one intake filter which appears clean and one exhaust filter which appears clean. The exhaust line is labeled as having holdup (#1747). There is a "manifold" above the filter which is a likely point for holdup.

Inside the box is a toolbox, metal spacers, heat gun, pan balance, a small pump and stand, a 1 ft. diameter by 2 ft. tall furnace with what could be an asbestos sleeve, a smaller furnace approximately 10 in. diameter by 10 in. tall, four Volrath cans, a pan and miscellaneous tools, electrical cord and Tygon tubing. There is an estimated 10 ft^3 of metal items and 1 ft^3 of other miscellaneous items. There is a metal shelf along the back wall with a small amount of debris on the shelf and on the floor.

Under the box is a 4 liter bottle with approximately 1/2 pint of oil and approximately 5 ft^3 of instruments.

The box has one criticality drain which appears o.k.

The box is labeled as having 4.4 mRem/hour whole body and 5.4 mRem/hour extremity at the box.

South of the box is a 2 ft. diameter by 2 ft. liquid nitrogen dewar.

North of the box is a portable leak detector on a cart. The detector measures approximately 2-1/2 ft. by 2 ft. by 2 ft. Associated with the detector is a motor and vacuum pump with an estimated volume of 2 ft^3.

Line 213 is in two sections. The south section is approximately 6 ft. 4 in. by 3-1/2 ft. by 3 ft. wide. It is painted with lead shielding on the front and back sides.

There is no material balance card on the box.

The box has seven 50 mil leaded gloves with 9 in. steel leadlined covers; one 9 in. bagout port; and a 12 in. bagout port.

The box has the following windows: four 3 ft. by 2-1/2 ft. with leaded glass covers - each window has two gloves; and two 2 ft. by 2 ft. 8 in. windows in the ceiling.

Inside the box is a 2 ft. by 2 ft. by 2 ft. furnace. The bottom of the box is covered with approximately 1 ft^3 of absorbent ("kitty litter"), some appears to be oil soaked. Inside are two part carriers, a hair dryer, hand tools, pan, and vice. There is an estimated 2 ft^3 of metal parts, not counting the furnace.

The box is labeled as having 2.9 mRem/hour whole body and 5.5 mRem/hour extremity at the box.

There is one intake filter which is dirty and two exhaust filters which appear clean. The exhaust line is labeled as having holdup (#1763).

The criticality drain appears o.k.

The north end of the line has a section that is approximately 1 ft. 8 in. by 1 ft. 6 in. by 1 ft. 6 in. which connects the south and north end. This section is painted and has lead shielding epoxied on. There is a rubber seal protecting the non-contaminated north section which connects to a new, uncontaminated overhead conveyor system. The north section has a transition piece connecting with the overhead conveyor line which measures approximately 1 ft. 8 in. by 1 ft. 10 in. by 2 ft. 2 in. This piece is painted and has lead shielding which is epoxied on.

The new north section has two 50 mil leaded gloves and six 9 in. bagout ports. This section is 2 ft. 4 in. tall by 3 ft. 2 in. wide by 5 ft. 6 in. long.

This new section has the following windows: one 1 ft. 6 in. by 10 in.; one 2 ft. 2 in. by 11 in.; two 7 in. by 11 in.; one 1 ft. by 2 ft. and one 2 ft.2 in. by 11 in. in the ceiling. None of these windows have leaded glass.

The north section is clean with the exception of some metal turnings on the floor.

The criticality drain is empty and not in use.

There is a steel cabinet located west of glovebox 213. It is labeled "PCB Contaminated" inside and also has a radioactively contaminated label as well. Next to the cabinet is a table with a 1 ft. by 1 ft. by 2 ft. cabinet and approximately 40 ft. of rubber hose (estimated volume of hose - 5 ft^3. There is a control cabinet adjacent to this which measures 2 ft. by 2 ft. 8 in. by 6 ft. 6 in.

Overhead Conveyor Line. It measures approximately 2 ft. tall by 1 ft. 8 in. deep and is approximately 120 ft. long. This line is unpainted and has no shielding and has never been radioactively hot.

There are approximately 100 gloveports. Most are open with the exception of about ten with 50

mil leaded gloves and thirty with rubber boots.

The line has approximately forty window openings measuring 2 ft. by 1 ft., with approximately fifteen windows in place.

The Stokes and Die Casting Furnace control panel is located in the northeast section of the room and measures 6 ft. tall by 6 ft. wide by 2-1/2 ft. deep. Next to it is the Stokes Furnace/Cragment Furnace Control panel measuring 6 ft. tall by 2 ft. wide by 2 ft. deep. Located next to this is a power panel measuring 6 ft. tall by 2 ft. wide by 2 ft. deep.

Adjacent to the panels described above is the Stokes vacuum pump (1B-12) which measures 5 ft. long by 2 ft. wide by 4 ft. tall. There is an estimated 40 ft^3 of motor, pump, piping, and valves. There is external contamination on the west end of this system.

Next to the pump is a computer control station measuring 2 ft. by 2 ft. by 4 ft.

Line 228 is formed in several sections.

The north section is painted with no lead shielding, though there is lead tape on seams and window joints. This section measures 11 ft. tall by 5 ft. long by 1-1/2 ft. wide and contains the Stokes furnace. The furnace chamber measures 2 ft. deep by 4 ft. 4 in. diameter with a 1/2 in. steel door approximately 4 ft. 4 in. diameter which is raised into the upper section of this box.

This north section has seven 50 mil leaded gloves with leadlined steel covers and one 9 in. bagout port.

The north section has the following windows: one 4 ft. 9 in. by 2 ft. 8 in. (with two gloves and a 9 in. bagout port); two 4 ft. 9 in. by 2 ft. 2 in. (one with two gloves and one with three gloves). Approximately 3/4 of these two windows have a leaded glass cover.

Inside the furnace is an insulated crucible with copper coils measuring 12 in. tall by 18 in. in diameter. There is also a tilt-pour furnace measuring 12 in. by 8 in. by 16 in. The estimated volume of these items is 3 ft^3.

There are miscellaneous tools in this section (approximately 1 ft^3) and a small amount of residue on the floor.

There is one intake filter which is clean and one exhaust filter. The exhaust line is labeled as having holdup (#1772).

The box is labeled as having 1.11 mRem/hour whole body and 9.2 mRem/hour extremity at the box.

Behind the north section there is a platform and steps measuring 5 ft. 8 in. by 2 ft. 3 in. by 6-1/2 ft. tall. Underneath the stairs is a power cabinet measuring 2 ft. 6 in. by 2 ft. 8 in. by 3 ft. There is a tilt mechanism on the back side of the box with an estimated volume of 3 ft^3 . There is an associated 4 ft^3 of rubber hose. The outside of the tilt mechanism is contaminated

(60,000 dpm/100 cm^2).

The next glovebox section measures 5 ft. 2 in. long by 3 ft. tall by 2-1/2 ft. deep and is painted and lead-lined on the front, back, and bottom (epoxied on).

This section has four 50 mil leaded gloves with leadlined steel covers.

The box has the following windows: one 2 ft. 3 in. by 11 in.; one 1 ft. 6 in. by 11 in.; one 11 in. by 7 in. ; one 1 ft. 2 in. by 6 in.; and one 1 ft. by 2 ft. reinforced glass.

This section has a pan and miscellaneous tools (1 ft^3), and water shielded feed rack measuring 2 ft. by 8 in. by 10 in.; two ingot carriers (1/2 ft^3). The rack is located on a shelf mounted against the back wall. The shelf has some residue on it. The floor of the box has residue and oil, likely from the criticality drain.

The Material Balance card shows two containers with IDC 057. There are two containers in the storage rack.

There is an external balance with penetration. There are several check weights on top of the box.

The criticality drain appears o.k.

There is a new, uncontaminated section transitioning between this glovebox system and the new, cold conveyor system. The conveyor box measures 3 ft. by 3 ft. 4 in. by 2 ft. 4 in. and is painted and lead-lined (epoxied on). The transition piece to the conveyor line measures 1 ft. 8 in. by 1 ft. 10 in. by 2 ft. 2 in. tall and is also painted and lead-lined. The conveyor box has six gloveports, all booted. It also has the following windows: one 2 ft. 2 in. by 11 in.; one 7 in. by 11 in.; and one opening, 1 ft. 5 in. by 10 in. This section has a criticality drain which is not in use. There is approximately 3 ft^3 of metal (threaded rod, etc.) and 2 ft^3 of conveyor drive system under the box.

The next glovebox section measures 2 ft. 6 in. by 2 ft. 10 in. by 2-1/2 ft. deep. This section connects to the new, uncontaminated conveyor system and is currently separated by a rubber gasket.

This section has a 20 in. bagout port with no shielding and two 50 mil leaded gloves with leadlined steel covers (both in a window measuring 2 ft.6 in. by 2 ft. 8 in., with leaded glass cover). There is a water shielded ingot carrier measuring 12 in. by 16 in. by 4 in.; heat gun, and an ingot rack (est. 1 ft^3). The floor is relatively clean.

There is a glovebox control panel under this section measuring 1 ft. 6 in. by 2 ft. 2 in. by 9 in.

The next glovebox section measures 5 ft. 4 in. long by 3 ft. tall by 3 ft. deep, painted, and leadlined front and back.

This section has five 50 mil leaded gloves with leadlined steel covers.

70

The box has the following windows: one 8 in. by 8 in. reinforced; two 3 ft. 8 in. by 1 ft. 9 in.; and one 1 ft. 2 in. by 1 ft. 9 in. with leaded glass.

This section has a criticality drain which appears o.k.

It also has an exhaust filter which is dirty. The exhaust line is labeled as having holdup (#1786).

There is a cabinet under this section measuring 2 ft. 10 in. by 1 ft. 6 in. by 2 ft. 2 in. which is labeled as having PCB contamination and is radioactively contamined internally.

Inside the box is a hot plate, tools, tool box, and two part carriers (estimated volume of 6 ft^3 of metal). There is an external balance with glovebox penetration. This section is fairly clean, with a small amount of residue on the floor.

The final section on the south end measures 4 ft. by 6 ft. by 3 ft. It is painted and is leadlined(epoxied on).

This section has fifteen 50 mil leaded gloves with leadlined steel covers.

The box has the following windows: four 2 ft. 4 in. by 1 ft. 1 in. (one with leaded glass); seven 1 ft. 1 in. by 6 in.; one 1 ft. 11 in. by 1 ft. 4 in.; one 1 ft. 4 in. by 11 in.; and two 2 ft. by 10 in. reinforced glass.

Inside the line is a hoist and two furnaces, total volume estimated at 30 ft^3. Associated with this equipment is a bellows with what appears to be an asbestos sleeve. The area below this equipment looks to have potential holdup. The floor has a small amount of debris. **There is a label identifying two classified components.**

Under the glovebox are two vacuum pumps, both with internal contamination. There is a small metal gas bottle (1 ft. by 4 in. diameter) also located under the box as well as a 6.2 liter in-line metal bottle.

The box is labeled as having 2.3 mRem/hour whole body and 4.0 mRem/hour extremity at the box.

Against the north wall are two metal storage cabinets measuring 6-1/2 ft. tall by 3 ft. wide by 1-1/2 ft. deep. Both are locked and could not be visually inspected. There is a steel work table on the north wall measuring 3 ft. by 2-1/2 ft. by 4 ft. containing a roll of lead tape, plastic tape, and miscellaneous items (1 ft^3). There is a tool box located under the desk with tools (2 ft^3). Next to the desk is an arc furnace 480V power supply cabinet measuring 2 ft. 4 in. wide by 3 ft. deep by 4 ft. 4 in. tall. which supports Line 224.

Line 224 is a cold glovebox line which is in two sections.

The north section measures 5 ft. 8 in. by 3 ft. by 1 ft. 5 in., is painted, and leadlined (epoxied

on). It contains an arc furnace. The furnace chamber measures 1 ft. 10 in. diameter by 2 ft. deep and contains approximately 1/4 ft^3 of copper coil.

This section has five 9 in. glovebags and two 50 mil leaded gloves.

The box has the following windows: one 2 ft. 4 in. by 1 ft.; two 1 ft. 5 in. by 11 in.; two 1 ft. 3 in. by 6 in.; one 1 ft. 2 in. by 7 in.; one 1 ft. 4 in. by 10 in. reinforced; one 1 ft. by 2 ft. reinforced; one 1 ft. 8 in. by 1 ft. 2 in.; one 1 ft. 1 in. by 9 in.; and one 6 in. by 8 in.

The box has one clean intake filter and one clean exhaust filter. The exhaust line has no holdup labels.

The floor of the box is clean.

Under the glovebox is a vacuum pump measuring 2 ft. by 2 ft. by 1-1/2 ft.

Connected to the south end of this box is a transition piece connecting to the south box measuring 1 ft. 6 in. cubed. It is leadlined and painted. This passthrough could be visually examined. It contains one 50 mil leaded glove and one glovebag.

The glovebox on the south end measures 4 ft. long by 3 ft. high by 3 ft. wide. It is painted and leadlined.

The box contains one 50 mil leaded glove; one open port; one 14 in. open port, and three 9 in. glovebags.

The intake filter is dirty and the exhaust filter is clean. The exhaust line has no holdup labels.

The box has eight heat detector storage positions which are empty. Estimated volume of 1 ft^3. There is a balance with penetration and check weights located on top of the box.

There is a transition piece to the cold overhead conveyor line. This section is uncontaminated and measures 3 ft. wide by 3 ft.tall by 2 deep and is painted and leadlined (epoxied on). There are six 9 in. glovebags. This section has the following windows: one 2 ft. 2 in. by 11 in. opening; one 11 in. by 7 in.; one 1 ft. 6 in. by 11 in. There is one piece of equipment (1 ft^3), approximately 3 ft^3 of threaded rod; and 2 ft^3 of conveyor drive system under the box. There is a criticality drain under this section which is empty and not in use.

Located north of this line is a Cragmet furnace control panel measuring 4 ft. long by 7 ft. tall by 2-1/2 ft. wide. There is also a gas sample control panel measuring 7 ft. tall by 2 ft. by 2 ft.

Line 223 is connected to the uncontaminated conveyor access box servicing Line 224. It is separated by a rubber gasket isolating the two boxes. The line is in three sections and ultimately connects in with Line 227.

The east section measures 2-1/2 ft. by 2-1/2 ft. by 1 ft. 9 in. and is painted and leadlined (epoxied on).

This section has four 50 mil leaded gloves with leadlined steel covers.

The box has the following windows: two 15 in. by 11 in.; two 6 in. by 1 ft. 3 in.; and one 2 ft. 4 in. by 11 in. reinforced glass.

Inside this section is a part carrier filled with thermocouple wire and connectors (1/2 ft^3) and a saber saw mounted on a metal stand (2 ft^3). The floor is rusty and covered with oil and metal particles.

The middle section measures approximately 2 ft. 4 in. by 3 ft. by 5 ft. and is painted and leadlined (epoxied on).

This section has five 50 mil leaded gloves with leadlined steel covers and one 9 in. bagout port.

This section has the following windows: five 6 in. by 1 ft. 3 in.; two 1 ft. 8 in. by 1 ft. 1 in.; two 2 ft. 4 in. by 1 ft. 1 in.; one 1 ft. 5 in. by 11 in.; two 9 in. diameter; and one 2 ft. 4 in. by 11 in. reinforced.

Inside the box there is a can sealer (2 ft^3), a pint sqeeze bottle, and two part carriers (1 ft^3). The floor is covered with oil, likely from the criticality drain.

It has one criticality drain which appears o.k.

The west section measures approximately 2 ft. 6 in. long by 2 ft. wide by 2 ft. tall. and is painted and leadlined (epoxied on).

This section has two 50 mil leaded gloves with leadlined steel covers.

This section has the following windows: two 1 ft. 5 in. by 11 in.; and one 2 ft. 4 in. by 1 in. reinforced.

Inside the box are two muffle furnaces for burning oxide (2 ft^3) which couldn't be visually inspected; a large Volrath can with tools (1/2 ft^3); and two pan screens (1/2 ft^3). The floor has some debris and oxide on it.

This section has no intake or exhaust filters.

The box is labeled as having 2.2 mRem/hour whole body and 12.8 mRem/hour extremity at the box.

Line 227 is connected to the west section of Line 223 via a round passthrough. This line is comprised of four sections.

The southwest section is approximately 3 ft. wide by 6 ft. long by 3 ft. tall. It is painted and leadlined (epoxied on).

13

This section has five 50 mil leaded gloves with leadlined steel covers and a 9 in. bagout port with leadlined steel cover.

The box has the following windows: one 2 ft. 4 in. by 1 ft. 2 in. with leaded glass cover; two 2 ft. 2 in. by 1 ft. 1 in. with leaded glass cover; and two 2 ft. 4 in. by 11 in. reinforced glass.

The floor of the box has oil and a small amount of residue. It contains approximately twenty two 8801 Volrath cans, all appear empty (4 ft^3); a bandsaw and vice (2 ft^3); a large vice (1 ft^3); heat gun; gloves; miscellaneous hand tools (1/2 ft^3); one 1 ft. by 16 in. by 4 in. waterwalled part carrier. There is an external balance with glovebox penetration.

The box has one intake filter which is clean.

The box has one criticality drain which appears o.k.

The box is labeled as having 0.8 mRem/hour whole body and 12.9 mRem/hour extremity at the box.

The south section is approximately 4 ft. tall by 3 ft. wide by 3 ft. long and is painted and leadlined (epoxied on).

This section has five 50 mil leaded gloves with leadlined steel covers and an 18 in. bagout port with no cover.

This box has the following windows: one 3 ft. 2 in. by 1 ft. 1 in. with leaded glass cover; two 1 ft. 4 in. by 8 in. with leaded glass cover; and one 2 ft. by 10 in.

Inside this section are four ceiling mounted heat detector storage racks which are empty (2 ft^3); a four position storage rack on the floor (1 ft^3) which contains one 8801 Volrath can; and miscellaneous tools (1/4 ft^3). There is a Material Balance card which shows one container of IDC 057.

Under the box is a Lepel water circulation system measuring 3 ft. by 2 ft. by 2 ft. Above the box is a glovebox control panel measuring 8 in. by 2 ft. by 2 ft.

The middle section measures 3 ft. 10 in. tall by 2 ft. 8 in. long by 3 ft. wide. It is painted and leadlined (epoxied on).

This section has eight 50 mil leaded gloves with leadlined steel covers.

The box has the following windows: two 2 ft. 4 in. by 11 in. with leaded glass covers; two 6 in. by 11 in. with leaded glass covers.

The box contains approximately 2 ft^3 of graphite molds; 1/2 ft^3 of miscellaneous metal; and 1 ft^3 of Volrath cans. These items sit on a hinged shelf completely covering the bottom of the box. Underneath the shelf there appears to be 2-3 ft^3 of items and tools which cannot be seen. This area is a candidate for holdup.

74

The box has one criticality drain which appears o.k.

There is one exhaust filter which can't be visually inspected due to a perforated cover plate. The exhaust line is labeled as having holdup (#2578).

The north section contains the Cragmet melt furnace. This section is approximately 4 ft. by 6 ft. tall by 5 ft. wide and is painted and leadlined (epoxied on) The furnace chamber is approximately 2 ft. deep and 4 ft. tall. The door is closed and could not be visually inspected.

The box has fifteen 50 mil leaded gloves with leadlined steel covers.

The box has the following windows: one 3 ft. by 1 ft.; one 3 ft. by 11 in.; two 8 in. by 8 in.; one 7 in. by 1 ft. 9 in.; one 3 ft. 4 in. by 11 in.; and one 3 ft. 2 in. by 1 ft. 11 in. all covered with leaded glass.

There is a small amount of material on the floor of the box; otherwise it is fairly clean.

There is one exhaust filter which is clean. The exhaust line is labeled as having holdup (#2581).

The box is labeled as having 2.0 mRem/hour whole body and 12.9 mRem/hour extremity at the box.

West of Line 227 is a Stokes vacuum pump measuring 5 ft. long by 4 ft. tall by 3 ft. wide. It has approximately 10 ft^3 of associated piping and valves. Near the vacuum pump is a LASL Inductotherm casting furnace 480V control panel measuring 5-1/2 ft. long by 5 ft. tall by 3 ft. wide.

Southwest of Line 227 is a new glovebox intended for a bottom pour casting furnace. This box is 12 ft. long by 4 ft. 4 in. tall by 2 ft. 8 in. wide with a section on the top of the west end measuring 4 ft. tall by 2 ft. 8 in. wide by 4 ft. wide. This uncontaminated glovebox is painted and leadlined (epoxied on). The box is on a cart and is not yet installed. The box has no windows or gloves other than the openings for them as follows: one 3 ft. 8 in. diameter; thirty 9 in. diameter; seventeen 1 ft. 3 in. by 8 in.; one 1 ft. 6 in. diameter; two 1 ft. 8 in. by 1 ft. 2 in.; three 1 ft. by 2 ft. 6 in.; one 1 ft. 4 in. by 11 in.; and one 2 ft. 7 in. by 2 ft. 6 in. Inside this box is a large steel door measuring 3 ft. in diameter and in a frame 3-1/2 ft. wide by 5 ft. tall by 10 in. deep.

Lines 209 and 208 are connected SNM storage boxes. Both measure 2 ft. 4 in. wide by 3 ft. tall by 9 ft. 10 in. long.

The line has one14 in. bagout port at the east end with a leadlined steel cover and twelve 50 mil leaded gloves, each with a leadlined steel cover.

This box has the following windows: six 2 ft. 4 in. by 1 ft. 1 in.; seven 1 ft. 2 in. by 9 in.; and six 10 in. by 2 ft. 4 in. reinforced.

75

This box has twenty four storage positions with heat detectors. Half are located on a shelf and the remainder are on the box floor. There are approximately seventeen storage cans measuring 8 in. diameter by 12 in. tall. Thirteen are in heat detectors, the remainder are located on the glovebox floor. The seven in the top row can't be visually inspected to confirm that they are empty. The material balance card indicated that there are four 8801 cans with SNM (IDC 057) which should be in four of the seven cans.

There is a heat gun, check weights, Volrath cans, and miscellaneous hand tools (estimated volume of 5 ft^3). There is an estimated 4 ft^3 of electrical conduit and fittings in the box. There is approximately 2 ft^3 of rope conveyor and an estimated 2 ft^3 of Tygon tubing and electrical wire. There is an external balance with glovebox penetration.

The shelf and floor have some dust and particulates.

There is a vacuum pump under the west end with likely contamination inside. There are two gas purifying systems under the box measuring 3 ft. by 3 ft. by 3 ft.

There is one criticality drain which is o.k.

The one intake filter is clean as well as the one exhaust filter. The exhaust line is labeled as having holdup (#1788).

The box is labeled as having 3.8 mRem/hour whole body and 6.4 mRem/hour extremity at the box.

There is an airlock connecting the line to the overhead conveyor line. This passthrough is 14 in. long by 16 in. diameter. Both doors are closed and the passthrough cannot be visually inspected. The conveyor box is approximately 3 ft. by 3 ft. by 3 ft., painted, and leadlined (epoxied on). The box has six 9 in. boots.

The box has the following windows: one 2 ft. 4 in. by 1 ft. 1 in.; one 11 in. by 10 in.; two 9 in. round; and one 16 in. by 10 in.

Inside the box there is approximately 3 ft^3 of lift mechanism. Under the box is approximately 2 ft^3 of lift drive mechanism.

There is an extension to the conveyor line measuring 2 ft. by 2 ft. by 2 ft. which is painted and leadlined (epoxied on).

Under the box is an oxygen analyzer control panel and pressure control and alarm panel measuring 6 in. deep by 3 ft. 8 in. by 2 ft. 6 in.

Line 207 measures 2 ft. 4 in. by 3 ft. by 9 ft. 10 in., is painted and leadlined (epoxied on).

The line has six 50 mil leaded gloves with leadlined steel covers and a 14 in bagout port with a leadlined steel cover.

76

The box has the following windows: three 2 ft. 4 in. by 1 ft. 1in.; four 1 ft. 2 in. by 9 in.; and three 10 in. by 2 ft. 4 in. reinforced.

Inside the box are two heat guns, check weights, miscellaneous tools, (estimated 1 ft^3) and a twelve storage position heat detector with four 8801 cans located in them. The material balance card shows one to have SNM, IDC 057.

The one intake filter was clean as well as the exhaust filter. The exhaust line is labeled as having holdup (#2587).

There is an external pan balance with glovebox penetration.

There is one criticality drain which appears o.k.

There is a large vacuum pump under the line (480V) measuring 2 ft. by 2 ft. by 2 ft.

The box is labeled as having 3.8 mRem/hour whole body and 6.4 mRem/hour extremity at the box.

South of Line 203 is a new Stokes vaccum pump which is on skids and measures 3 ft. by 4 ft. by 4 ft.

Line 206 measures 3 ft. by 3 ft. by 16 ft. long. This box is painted and leadlined (epoxied on).

The box has thirty two 50 mil leaded gloves with leadlined steel port covers; one 9 in. bagout port; and one 14 in. bagout port.

The box has the following windows: seven 2 ft. 4 in. by 1 ft. 1 in.; one 1 ft. 8 in. by 1 ft. 1 in.; eleven 1 ft. 3 in. by 6 in.; and four 1 ft. 3 in. by 8 in.; all with leaded glass covers. In addition there are five 1 ft. by 2 ft. reinforced glass in the ceiling.

The box has a balance with a glovebox penetration. There is an estimated 1/4 ft^3 of check weights outside the line.

There is a material balance card showing one 8801 can (IDC 057).

Inside the box is a penetrometer measuring 2 ft. by 1 ft. by 2 ft; a swager measuring 2 ft. cubed; two tool boxes with tools (1 ft^3); a punch and die apparatus measuring 2 ft. cubed; a 3 position heat detector (with one 8801 can) (1 ft^3); two part carriers (1 ft^3); a hydraulic shear (1-1/2 ft^3); miscellaneous hand tools (1/2 ft^3); metal can; and tape. The glove box floor has a small amount of debris.

There is no exhaust filter on this glovebox section. This box uses the Line 205 exhaust. There is one large (1 ft. by 1 ft.) intake filter which is clean.

The one criticality drain appears o.k.

The box is labeled as having 2.2 mRem/hour whole body and 1.0 mRem/hour extremity at the box.

This box is connected then to Line 205. The connecting section measures 3 ft. by 1 ft. 3 in. by 4 ft. 10 in. It has one exhaust filter which is clean. The exhaust line is labeled as having holdup (#2600).

This connecting section also has the following windows: two 4 ft. 5 in. by 1 ft. 3 in.; each with three gloves and covered by leaded glass.

Also inside this section are what appear to be molds (2 ft^3); a grease gun; and electrical wire (1/2 ft^3). There appears to be some holdup on the edge opening into line 205.

Under this section is a 480V cast iron swager measuring 3 ft. 9 in. by 5 ft. by 3 ft.

Line 205 measures 7 ft. long by 2 ft. 8 in. wide by 4 ft. tall.

This line has the following windows: four 3 ft. 3 in. by 4 ft. with leaded glass. The windows have eleven 50 mil leaded gloves, one 9 in. bagout port; and two 9 in. windows inset into the larger windows.

Inside the line is a 1-1/2 ft. by 2 ft. by 6 in. swager; an 18 in. by 8 in. by 1 in. screen; hand tools; vice; a heating mantle (asbestos?) (1/4 ft^3); a rheostat (6 in. by 6 in. by 6 in.); two tool boxes (1-1/2 ft^3); power tool (1 ft^3); a stirring motor, ring stand, clamp, and hacksaw (2 ft^3). There are a small amount of metal chips in the swager opening and on the floor of the box.

There are three intake filters with what appears to be unusual butterfly valves. There is one dirty exhaust filter. The intake filters could not be visually examined.

There are two horizontal pencil tanks under the box:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
T430	1313	6"x5'5"	10 gal.	empty	no	no	PEN	N/A
T431	1314	6"x5'5"	10 gal.	empty	no	no	PEN	N/A

Note: These tanks are sloped. The criticality limits state that coolant containing 2500 gr. plutonium as solids as sludge are allowed. The drain lines on these tanks are such that removal of sludges would be difficult. It is likely that there are sludges and possibly metal chips in these tanks, though it is not known how much.

There is a connection between Lines 201 and 205 which has no lead shielding or paint. It measures 2 ft. tall by 1 ft. 8 in. long by 2 ft. 8 in. wide.

It contains two 50 mil leaded gloves and two windows measuring 8 in. by 1 ft. 1 in.

Line 201 measures 3 ft. 3 in. by 5 ft. wide by 4 ft. tall and has a B-box attached which measures 3 ft. 6 in. long by 5 ft. 2 wide by 4 ft. tall. The sections are painted and leadlined (epoxied on).

The box has one 1 ft. 10 in. bagout port which is blanked off with a metal blank.

The box has the following windows: two 2 ft. 6 in. by 3 ft. 7 in. containing four 50 mil leaded gloves with leadlined steel gloveport covers - the window is also covered with leaded glass; two 3 ft. 4 in. by 3 ft. 9 in. plexiglas sliding windows on the B-box section; one 2 ft. 6 in. by 5 ft. in the ceiling; two 2 ft. by 2 ft. in the ceiling of the B-box; and one 2 ft. by 3 ft. 3 in. with a 9 in. bagout port - covered with leaded glass.

Inside the glovebox and the B-box are two large rolling mills sitting on a metal base measuring 5 ft. by 2 ft. by 2-1/2 ft. There is an airlock between the glovebox and the B-box which is closed and could not be visually inspected.

The floor of the B-box is clean. The floor of the glovebox has an estimated 1 quart of oil dry on the floor; check weights; a heat gun; tape; hand tools (1/2 ft^3); and electrical cord.

There is one clean intake filter and two exhaust filters, whose lines are labeled as having holdup (#2609 and 2606).

In the southwest corner of the room is a mold coating hood and flame spray chamber. The hood measures 4 ft. wide by 3-1/2 ft. tall by 5 ft. long. The hood is uncontaminated. It contains 2 hot plates (1 ft^3) and miscellaneous items including sheet metal, spools, etc. measuring 1/2 ft^3.

The exhaust chamber measures 3 ft. by 5-1/2 ft. by 3 ft. with a 480V blower motor on top (2 ft^3).

On the floor next to the exhaust chamber are ten 7 in. by 8 in. shielded steel storage containers with 1/8 in. lead on the tops and bottoms.

Also in the southwest corner is a metal work bench measuring 2-1/2 ft. diameter by 4 ft. tall by 3 ft. tall. On the bench is a grinding mill measuring 2-1/2 ft. by 1-1/2 ft. by 1 ft. 3 in. There are also two 9 in. by 10 in. diameter ceramic ball mills. In the drawers are 2 rolls of lead tape; grinding media; hand tools, small glass bottles; and fuses (1 ft^3). In addition there are several chemicals - three 1 lb. bottles of methyl cellulose; 5 kg. yttrium oxide powder; 1600 gr. of yttrium oxide in two other containers. There were two 2 lb. containers which were unlabeled as to content.

Located in this area are three 55 gallon drums, each containing silicon oil; industrial lanolin; and Dow Corning 550 fluid. There is also one drum liner.

Line 203 is uncontaminated and measures 2 ft. 2 in. wide by 3 ft. tall by 9 ft. long. It is painted and is leadlined (bolted and epoxied on).

The box has nine 9 in. bagout ports; one 18 in. bagout port; and one 9 in. open port on the

bottom.

The box has the following windows: one 1 ft. by 18 in.; three 6 in. by 13 in.; three 2 ft. 3 in. by 1 ft. 1 in.; and two 1 ft. 6 in. by 1 ft. - all with leaded glass covers. In addition there is one 1 ft. 8 in.; one 6 in. by 1 ft. 10 in. (reinforced); and one 2 ft. 5 in. by 1 ft. 4 in. (reinforced).

The box has one intake filter housing with no filter in place and one exhaust filter(12" by 12") which is clean.

The box contains a 480V 150 ton press. There is a pass through in the roof for the press cylinder. There is a hydraulic pump and motors as well as a reservoir (labeled non-PCB), all measuring approximately 5 ft. by 2 ft. by 5 ft.

The press and glovebox sits on a steel base measuring 3-1/2 ft. by 3 ft. by 3 ft.

The inside of the box contains a sample vial; lamp and cord; a four positions storage rack with heat detectors (1 ft^3); several eyebolts; pieces of chain, a pan of hand tools (1/2 ft^3); a steel die measuring 16 in. by 1-1/2 ft. tall; and two die assemblies (3 ft^3). The floor of the box is relatively clean with a few metal turnings.

The box is labeled as having 4.9 mRem/hour whole body and 5.5 mRem/hour extremity at the box.

There is one criticality drain on the east end of the line which is empty.

Line 202 is an uncontaminated section connected to Line 203 and measures 3 ft. 2 in. wide by 3 ft. 6 in. tall by 8 ft. long. It is painted and lined with lead (epoxied on).

This section has the following windows: six 2 ft. 5 in. by 1 ft. 2 in. and six 6 in. by 1 ft. - all with leaded glass covers. In addition there are three 2 ft. 5 in. by 12 in. reinforced.

The box contains a 10 ft. section of 2 ft. wide by 2 in. tall roller conveyor; two leadlined steel gloveport covers; a 12 in. by 16 in. by 4 in. water shielded container; a roll of electrical cord; and miscellaneous steel items (1/2 ft^3).

On the west end of this glovebox section is a 2 ft. 6 in. long by 2 ft. 6 in. tall by 2 ft. 8 in. wide secction into which the conveyor extends. This section has a 2 ft. diameter open bag in port. It also has a criticality drain which is empty.

Attached to this section is another measuring 4 ft. long by 2 ft. 8 in. tall by 2 ft. 2 in. wide which is painted and leadlined (epoxied on). This section has a rubber gasket separating it from the previous section. This section has five 9 in. booted ports and one 9 in. bagout bag. This section also has the following windows: two 2 ft. 4 in. by 1 ft.1 in. - leaded glass; six 11 in. by 7 in. ; and one 2 ft. 4 in. by 10 in. reinforced.

Inside this section are three 9 in. leadlined gloveport covers; a 3 ft. section of roller conveyor measuring 2 ft. wide by 2 in. tall; and miscellaneous metal (1/2 ft^3).

Under this glovebox section is a relay cabinet 2 ft. 6 in. by 2 ft. 2 in. by 1 ft. 8 in.

Line 204 is an uncontaminated box that joins the previous section at the west end and measures 7-1/2 ft. by 3 ft. by 5 ft. This section contains a large Reusch hot rolling mill.

The glovebox portions have been installed around the outside of the mill. There is a glovebox section on the front face measuring 1 ft. deep by 2 ft. 8 in. wide by 3 ft. 6 in. tall. This section is leadlined (bolted on) and unpainted. This section contains eight 9 in. booted ports; one 1 ft. 4 in. by 1 ft. 4 in. window; and two windows 7 in. by 11 in.

The back side of the mill has a glovebox section measuring 1 ft. deep by 2 ft. 8 in. by 3 ft. 6 in. It is leadlined (bolted on) with no paint. It contains four 9 in. booted ports and two windows measuring 7 in. by 11 in.

Under the east end is a small glovebox section containing one 9 in. booted port and an 8 in. by 8 in. window.

On the west end of the rolling mill is a glovebox extension measuring 3 ft. 6 in. long by 2 ft. 8 in. tall by 2 ft. 2 in. wide. This section is painted and leadlined (epoxied on).

This section contains three 9 in. booted ports; one 9 in. glovebag; and one 14 in. glovebag with a leadlined steel port cover.

This section contains an external Lundberg furnace which is accessed from this glovebox section by a steel furnace well which is part of the back wall of the glovebox and which fits horizontally into the Lundberg. The Lundberg measures 3 ft. 6 in. long by 2 ft. 4 in. tall by 2 ft. 6 in. wide and sits on a metal stand measuring 3 ft. by 3 ft. by 1 ft. 8 in. Inside the glovebox is an insulated steel furnace plug which is mounted on an overhead conveyor. The plug volume is approximately 1 ft^3.

The box is labeled as having 1.09 mRem/hour whole body and 1.09 mRem/hour extremity at the box.

There is one exhaust filter housing with no filter.

There is one criticality drain which is empty.

There is a rolling mill control panel in front of the box measuring 2 ft. 7 in. wide by 2 ft. deep by 5 ft. tall. There is a rolling mill drive unit located behind the glovebox measuring 4 ft. by 4 ft. by 4 ft. This Horsburgh and Scott unit contains a 75 h.p. motor and gear reducer along with a 2 ft^3 of hydraulic power unit. South of the rolling mill is a rolling mill and arc furnace 480V power panel measuring 7 ft. tall by 5 ft. wide by 1-1/2 ft. deep.

Attached to Line 202 on the south end are three glovebox sections ending in Line 229.

The northernmost section attached directly to Line 202 is radioactively cold and measures 5 ft.

81

long by 3 ft. tall by 2-1/2 ft deep. This section is painted and leadlined (epoxied on).

It contains four booted 9 in. gloveports.

This section has the following windows: two 2 ft. 2 in. by 11 in.; two 1 ft. 1 in. by 6 in.; and two 1 ft. 1 in. by 1 ft. 8 in. reinforced.

Inside this section are two rubber window gaskets and a metal gasket cover. The floor is clean.

The next glovebox section is attached to the south end of the previous one. This section contains the overhead conveyor lift and transition piece. It measures 3 ft. long by 3 ft. 3 in. tall by 2 ft. 7 in. wide. It is painted and leadlined (epoxied on).

The box has three 9 in. boots and three open ports.

The box has the following windows: one 2 ft. 2 in. by 10 in. opening.; one 1 ft. 5 in. by 10 in. opening; and one 11 in. by 7 in. window..

Inside the box there is approximately 3 ft^3 of lift mechanism. Under the box is approximately 2 ft^3 of lift drive mechanism.

There is an extension to the conveyor line measuring 2 ft. by 2 ft. by 1 ft. 10 in. by 1 ft. 9 in. which is painted and leadlined (epoxied on).

This section has one criticality drain which is empty.

Line 229 measures 5 ft. 5 in. long by 3 ft. by 3 ft. It is attached to and extends to the east of the overhead conveyor box. It also has a passthrough measuring 1 ft. 6 in. by 1 ft. 6 in. by 11 in. deep. It is painted and leadlined (epoxied on).

The box is in two sections. The east section has a passthrough from the bottom which has a rubber boot attached to a metal pedestal (1/2 ft^3).

The box has three 50 mil leaded gloves and five 9 in. booted ports.

The box has the following windows: three 2 ft. 2 in. by 11 in.; two 2 ft. 10 in. by 12 in. reinforced; and four 6 in. by 1 ft. 1 in.

Inside the line is a metal container (1/2 ft^3). The floor is relatively clean with a small amount of metal turnings.

There is a passthrough filter which is clean and no exhaust filters.

The box is labeled as having 24 mRem/hour whole body and 1.25 mRem/hour extremity at the box.

North of Line 203 is a control panel measuring 2 ft. 6 in. wide by 1 ft. 8 in. deep by 7 ft. tall.

There is a 150 ton press electrical panel and control panel measuring 6 ft. tall by 6 ft. long by 1 ft. deep. There is a metal desk north of Line 202 measuring 3 ft. by 3 ft. 9 in. by 2 ft. 8 in. The desk has a computer, monitor, keyboard, and electronic equipment (2 ft^3). Inside the desk is approximately 1 ft^3 of paper and plastic. Next to the desk and north of Line 204 is a roll-around tool box measuring 1 ft. 6 in. by 3 ft. by 2 ft. 3 in. There are three lead aprons in the top of the toolbox. The remaining drawers are locked and could not be visually inspected.

There is a transformer cabinet next to the toolbox and north of Line 204 measuring 2 ft. 6 in. wide by 1 ft. 8 in. deep by 3 ft. tall.

Line 242 is part of a horseshoe shaped series of interconnected gloveboxes on the west end of Room 182. Line 242 comprises the northeast portion and is connected to the new conveyor at the southeast end.

The southeast conveyor glovebox section contains the overhead conveyor lift and transition piece. It measures 3 ft. long by 3 ft. 3 in. tall by 2 ft. 7 in. wide. It is painted and leadlined (epoxied on).

The box has six 9 in. boots and is separated from Line 242 by a rubber blank.

The box has the following windows: one 2 ft. 2 in. by 11 in. opening.; one 1 ft. 6 in. by 11 in. opening; and one 11 in. by 7 in. window..

Inside the box there is approximately 3 ft^3 of lift mechanism. Under the box is approximately 2 ft^3 of lift drive mechanism.

There is an extension to the conveyor line measuring 2 ft. by 2 ft. by 1 ft. 10 in. by 1 ft. 9 in. which is painted and leadlined (epoxied on).

There is a criticality drain which is empty.

The eastern leg of the horshoe measures 10-1/2 ft. long by 3 ft. tall by 1 ft. 10 in. deep. This box is painted and leadlined (epoxied on).

This section has nine 50 mil leaded gloves; one 9 in. booted port; one 9 in. bagout port - all with leadlined steel port covers.

This section has the following windows: five 1 ft. 3 in. by 6 in. - leaded glass covers; four 2 ft 4 in. by 1 ft. 1 in. - leaded glass covers; one 1 ft. 7 in. by 1 ft. 1 in. - leaded glass cover; two 1 ft. 1 in. by 9 in.; and three 12 in. by 2 ft. reinforced.

Inside this section are two tool boxes; a vice; Volrath can and lids; screen; heat gun; a three position storage rack (empty); hand tools; and electrical cord - estimated volume 3 ft^3. There is an external balance with glovebox penetration. The glovebox floor has a small amount of residue. In addition there is a Tenney Refrigeration system measuring 2 ft. by 2 ft. by 1 ft. 4 in. attached to and penetrating the southwest side of the glovebox. On the northwest corner is a Cincinnatti 480V chiller measuring 2-1/2 ft. by 6 ft. tall by 2 ft. 8 in. wide.

43

There is one clean intake filter and one clean exhaust filter. The exhaust line is labeled as having holdup (#2614).

There is a Tenney/Cincinnatti control panel under the line measuring 8 in. by 4 ft. by 2 ft. Attached to this is an electrical cabinet under the line measuring 1 ft. by 1 ft. 8 in. by 2 ft. There is also a temperature recorder (1 ft^3).

North of Line 242 are two Brew furnace control panels each measuring 2 ft. 2 in. by 1 ft. 10 in. by 6-1/2 ft. tall.

Behind Line 242 at the south end is a hydraulic press on a stand measuring 66 in. tall by 1 ft. by 2-1/2 ft.

Line 241 is located in the north central part of the horseshoe shaped glovebox system. It contains two Brew furnaces and measures 9 ft. long by 2 ft. 9 in. tall by 1 ft. 7 in. deep. It is painted and leadlined (epoxied on).

This section has six 50 mil leaded gloves.

This section has the following windows: two 2 ft. 5 in. by 1 ft. 2 in.; two 1 ft 8 in. by 1 ft. 2 in.; and two 2 ft. by 10 in. reinforced.

Inside the line is a small amount of refractory; a pan balance; hand tools; and miscellaneous metal - 1 ft^3. The floor is relatively clean. The insides of the Brew furnaces could not be visually inspected.

The Brew furnaces each extend out the back of the glovebox 1 ft. 6 in. deep by 1 ft. 8 in. wide by 1 ft. 8 in. tall. Associated with the furnaces are two large vacuum pumps located under each box which are likely contaminated.

At the west end of this glovebox section is an airlock measuring 1 ft. 8 in. by 1 ft. 8 in. by 1 ft. 6 in. The air lock could not be visually inspected. There is a 12 in. bagout port on the west side of this airlock.

This section has one criticality drain which appears o.k.

Line 221 makes up the west leg of the horseshoe shaped glovebox system. It measures 7-1/2 ft. long by 2 ft. 10 in. wide by 1 ft. 2 in. deep. It is painted and leadlined (epoxied on).

The box has a material balance card which shows one 8802 can with IDC 057.

The box has four 50 mil leaded gloves and one 9 in. bagout port.

The box has the following windows: two 2 ft. 2 in. by 1 ft. and five 7 in. by 11 in. - all covered with leaded glass.

There is a Brew furnace located at the south end of this section. It extends out the back of the box approximately 1 ft. 8 in., is 2 ft. tall and 1 ft. 10 in. wide. The furnace door is closed and could not be visually inspected. Associated with the furnace is a large vacuum pump located under each box which are likely contaminated.

Inside the box is a six position storage rack with one 8802 Volrath can; a 8 in. by 12 in. diameter part carrier; hand tools; a heat gun; and Volrath cans (total volume 2 ft^3). The box floor is dirty.

The one intake filter is dirty. There is one clean exhaust filter. The exhaust line is labeled as having holdup (#2621).

There is a power cabinet under the box measuring 1-1/2 ft by 2 ft. by 2-1/2 ft.

The box is labeled as having 1.09 mRem/hour whole body and 4.8 mRem/hour extremity at the box.

The box has a criticality drain which is o.k.

There is a control panel located at the south end of this section measuring 2 ft. 3 in. by 6 ft. tall by 1 ft. 10 in. deep.

There are two storage cabinets located against the west wall of Room 182 each measuring 6-1/2 ft. tall by 3 ft. wide by 1 ft. 6 in. deep. Both are locked and could not be visually inspected.

The room has the following drums:

Center of room - 14 drums (two IDC 421; seven IDC 420; one IDC 821; one IDC 422; two IDC 370; one IDC 470)

7 drums (two IDC 480; two IDC 330; one IDC 337; one IDC 429; one IDC 375)

Note: The outside of the room is labeled as RCRA Unit # 90.24 waste storage area.

85

Room 182A - Category A

Line 662 contained both uranium and plutonium. It measures 6 ft. 6 in. long by 3 ft. tall by 2 ft. wide. This section is painted and has lead bolted on. Line 662 has a penthouse section on top on the west end that measures 3 ft. 4 in. long by 1 ft. 6 in. tall by 1 ft. 10 in. wide. This section is painted but has no lead shielding.

The box has five 50 mil leaded gloves; one 9 in. bagout port; two booted gloveports; and one 12 in. bagout port. All ports have a leadlined steel cover.

The box has the following windows: one 2 ft. 6 in. by 1 ft. 6 in. - with leaded glass cover; one 2 ft. 8 in. by 1 ft. - with leaded glass cover; one 2 ft. 9 in. by 2 ft. 8 in. with two gloveports; one 6 in. by 1 ft.; and one 3 ft. by 1 ft. 8 in.

The box is divided into two sections. The east end has a drill, plastic bag, pan balance, check weights, heat gun, electrical cord, pan, Volrath can, and an empty one position storage rack with heat detector. There is an estimated 1 ft^3 total of items in this section. The floor is dirty with a small amount of residue on the bottom.

The west end has a lead-lined thermos measuring 6 in. diameter by 12 in. tall; a counting system measuring 1 ft. wide by 3 ft. tall by 1 ft. deep; and miscellaneous hand tools (1/2 ft^3). The floor is relatively clean.

There are two clean intake filters and two clean exhaust filters. The exhaust lines are labeled as having holdup (#1700 and 1699).

The box is labeled as having 1.3 mRem/hour whole body and 1.9 mRem/hour extremity at the box.

The box has a criticality drain which is o.k.

There is a vacuum pump under the line which is likely contaminated.

There is a portable instrument panel west of Line 662 measuring 2 ft. by 2 ft. by 4 ft. There is an empty liquid nitrogen dewar behind Line 662 measuring 1 ft. 8 in. diameter by 4 ft. 6 in. tall.

South of Line 662 there is a Lindberg furnace sitting on a bench. The furnace measures 1 ft. 8 in. by 2 ft. 6 in. by 2 ft. 2 in. The bench measures 2 ft. by 2 ft. by 3 ft. and contains approximately 1/2 ft^3 of hand tools, miscellaneous instruments, Volrath can, ceramic sleeve, Tygon tubing, and a box of nuts and bolts. In addition there are **asbestos** gloves and a piece of **transite** in the bench cabinet (1/4 ft^3).

There is a large hydraulic press (used at one time to press uranium parts) located in the southwest corner of the room. The press is not in a glovebox and measures 4 ft. by 4 ft. by 7-1/2 ft. tall, including the reservoir and dies. The reservoir is labeled as contaminated inside.

Line 264 is connected to Lines 263, 262, and 261 which are all painted and leadlined (bolted on). Line 264 measures 3 ft. long by 3 ft. 3 in. tall by 2 ft. 4 in. wide.

It has two 50 mil leaded gloves with leadlined steel port covers.

The box has the following windows: one 2 ft. 10 in. by 1 ft. 8 in. and 2 ft. 4 in. by 3 ft. 4 in. plexiglass with leaded glass cover.

The box has a material balance card which reads "0" grams SNM.

Inside the box is an isothermal bath measuring 8 in. by 8 in. by 10 in. inside a plexiglas enclosure measuring 6 in. by 16 in. by 9 in. The floor has some oil on it, apparantly from the criticality drain.

The box has one dirty intake filter and one clean exhaust filter. The exhaust line is labeled as having holdup (#1681)

The box is labeled as having 1.3 mRem/hour whole body and 3.0 mRem/hour extremity at the box.

The box has a criticality drain which is o.k.

There is a pan balance on top of the box with penetration as well as an electronic balance. Estimated volume of the balances is 1-1/4 ft^3. There are four lead bricks on top supporting the balances.

The box has a bellows gasket made of plastic connecting to an airlock on the north end of the box. The plastic appears to have deteriorated slightly inside due to radiolysis and should be handled with caution. The airlock measures 1 ft. 6 in. by 1 ft. 6 in. by 1 ft. 8 in. There are two 1 liter plastic bottles inside which appear empty as well as 1/4 ft^3 of some object wrapped in yellow tape. Outside the airlock is a shelf which is labeled as having 11,000 c/m direct. The airlock has a 9 in. bagout port on top in a window measuring 1 ft. 4 in. by 1 ft. 6 in. The port has a metal cover with 1/8 in. lead.

At the south end of Line 264 is a metal stand measuring 4 ft. by 1-1/2 ft. by 1-1/2 ft. with a keyboard and metal cover.

Line 263 measures 3 ft. 6 in. long by 3 ft. wide by 3 ft. tall.

The box has four 50 mil leaded gloves with leadlined steel port covers.

The box has the following windows: two 3 ft. 3 in. by 1 ft. 8 in. and one 12 in. by 3 ft.

The box has a material balance card which reads "0" grams SNM.

Inside the box is a four position storage rack with heat detection (1 ft^3); 1/2 ft^3 of Volrath cans; and 1/2 ft^3 of hand tools. There is a small amount of oil and residue on the floor.

87

This section has one clean exhaust filter. The exhaust line is labeled as having holdup (#1686).

This section has no criticality drain.

Line 262 measures 6 ft. long by 2 ft. 2 in. tall by 2 ft. wide.

It has four 50 mil leaded gloves with leadlined steel covers.

The box has the following windows: two 2 ft. 9 in. by 1 ft. 6 in. with leaded glass cover.

The box has a material balance card which reads "0" grams SNM.

Inside this section is a heat gun, drill, Volrath cans, rolls of tape, a pan balance with check weights, and an electrical cord. The metal components have an estimated volume of 1 ft^3. The floor appears relatively clean.

Line 261 measures 6 ft. 8 in. long by 3 ft. 8 in. tall by 3 ft. wide.

This section has eight 50 mil leaded gloves; one 9 in. bagout port; and one 14 in. bagout port. Each has a leadlined steel port cover.

This section has the following windows: two 3 ft. 2 in. by 1 ft. with leaded glass cover; two 4 ft. by 1 ft. 6 in., one with a 9 in. port blanked with a leadlined metal cover; two 1 ft. 8 in. by 1 ft. 2 in. with three 50 mil leaded gloves; two 16 in. by 20 in.; and two 20 in. by 8 in. with leaded glass cover.

Inside the box are two 4 position storage racks with water wall shields measuring 20 in. by 20 in. by 8 in. (2 ft^3 ea.); two 8 in. diameter by 6 in. metal cans with lids; hand tools (1/4 ft^3); and a section of water shield (1/2 ft^3). The floor of the box has some oil and residue.

The section has one dirty intake filter.

The section has one criticality drain which appears o.k.

Line 270 measures 3 ft. long by 2 ft. 6 in. tall by 2 ft. wide. It is painted without shielding.

The box has two 50 mil leaded gloves in a window with leadlined steel port covers.

The box has the following windows: one 2 ft. 10 in. by 2 ft. 6 in. and one 2 ft. by 8 in.

The box has a material balance card which reads "0" grams SNM.

Inside the box is a heat gun, metal vials, pan balance, two Volrath cans and lids, and tape. There is an estimated 1 ft^3 of metal items.

Under the box is a metal stand measuring 2 ft. by 2 ft. by 6 in. containing five large Volrath cans (2-1/2 ft^3).

The box has one dirty intake filter and one clean exhaust filter. The exhaust line is labeled as having holdup (#1676).

The box has no criticality drain.

There is a pass through from this box to an airlock. It is painted but unshielded. It contains one 50 mil leaded glove with a leadlined steel port cover. There is a small amount of debris on the floor. The airlock measures 1 ft. 6 in. by 1 ft. 6 in. by 1 ft. 8 in. and is painted and leadlined (bolted on). The airlock appears empty.

Line 269 is painted and has lead shielding (bolted on). It measures 5 ft. long by 3 ft. tall by 2 ft. wide.

It has four 50 mil leaded gloves and one 9 in. bagout port - all with leadlined steel port covers.

The box has the following windows: one 2 ft. 4 in. by 1 ft. 2 in. with leaded glass cover; one 2 ft. by 1 ft. 2 in. with leaded glass cover; one 6 in. by 1 ft. with leaded glass cover; and one 5 ft. by 2 ft.

Inside the box are two Carver hydraulic presses (2 ft^3 each); a metal box with tools (1 ft^3); miscellaneous hand tools on a shelf (1/2 ft^3); two empty cans; and a metal vial. The vial is capped and could not be visually inspected inside. The box floor has oil and a small amount of residue.

The box has one dirty intake filter and a clean exhaust filter. The exhaust line is labeled as having holdup (#1669).

The box is labeled as having 1.09 mRem/hour whole body and 4.3 mRem/hour extremity at the box.

The box has no criticality drain.

In the northeast corner of the room is a metal cabinet measuring 4 ft. by 4 ft. 10 in. by 1 ft. 8 in. containing miscellaneous plastic bags, rolls of tape, and paper (1/4 ft^3). There are ten 1 gallon empty paint cans, five tubes of silicon lubricant, four gallons of Fluorinert FC-43; a gallon of KW cleaning solution; and miscellaneous bottles of oil and ink. There is also a 4 drawer file cabinet measuring 2 ft. 2 in. by 1 ft. 3 in. by 4 ft. 4 in. tall which is locked and could not be visually inspected. On top is a lamp (1/2 ft^3).

Against the east wall is a metal desk measuring 4 ft. long by 2-1/2 ft. wide by 2-1/2 ft. tall. The desk is empty. On top of the desk is a tool box with tools (1-1/2 ft^3).

Against the west wall is a metal desk measuring 6 ft. long by 2 ft. deep by 2 ft. tall containing: hand tools (1/2 ft^3), tape, paper and gloves (1/2 ft^3), and an old adding machine (1/2 ft^3).

There is a metal credenza on top measuring 3 ft^3 containing 1/2 ft^3 of chart paper rolls. There are two rolls of thermalcouple wire (1 ft^3); and five empty 10 gallon drums.

In the northwest corner of the room is a metal desk measuring 6 ft. by 2 ft. by 2-1/2 ft. The desk was inaccessible and the drawers could not be visually examined. On top of the desk is a pan balance (1 ft^3).

In the center of the north wall is a lead shield on wheels. The shield is a metal frame with 1/8 in. lead sheet. The shield measures 6 ft. long by 3 ft. tall. Inside the shielding is a metal apparatus measuring 1 ft. diameter by 2 ft. tall. The function and contents of the apparatus are not known.

There are twelve combos in storage in the northwest corner of the room - each measuring 1-1/2 ft. by 2 ft. by 3 ft. tall.

The room has the following drums:

Southwest corner - 2 drums (two IDC 480)

Center - 2 drums (one IDC 335; one IDC 301)

Southeast corner - 7 drums (one IDC 486; one IDC 300; one IDC 491; three IDC 336; one IDC 301)

In the southeast corner of the room is a large metal bench measuring 5 ft. long by 2-1/2 ft. by 3-1/2 ft. tall containing a vice, grinder, drill press and hand tools (4 ft^3). Under the bench is a wooden rack 2 ft. by 2 ft. by 2 ft. with five 55 gallon drum lids.

Room 183A - Category D

This room is being used entirely for drum storage. The room is labeled as RCRA Unit #90-129.

The room has the following drums:

North side - 14 drums (three IDC 421; four IDC 409; three IDC 420; one IDC 413; one IDC 392; one IDC 378; one IDC 419)

Next row -24 drums (one IDC 479; four IDC 420; three IDC 330; two IDC 394; two IDC 368; seven IDC 421; one IDC 398; two IDC 370; two IDC 409)

Next row -24 drums (seven IDC 420; one IDC 336; eleven IDC 338; three IDC 421; one IDC 330; one IDC 422)

Next row -24 drums (two IDC 420; sixteen IDC 338; one IDC 393; three IDC 330; one IDC 405; one IDC 444)

Next row - 10 drums (two IDC 336; seven IDC 338; one IDC 330)

Last row - 9 drums (four IDC 330; two IDC 338; one IDC 371; one IDC 393; one IDC 420)

Room 184 - Category D

Room 184 is a vault. The vault is labeled as RCRA Unit # 90.65. The vault was locked and could not be visually inspected. It containts two hundred and four storage positions along the walls. The positions are shielded by water filled annular storage containers measuring 11 in. outside diameter by 11-1/2 in. high with a 2-1/2 in. annulus. In addition to the water shielding they also have 1/8 in. lead shielding. The containers are mounted on racks with 21 in. centers. The bottom two rows may have a 4 in. waterwall shield door on the front of the containers.

In the center is a row of 30 positions designed as described above.

Room 185 - Category D

This room is currently being used as a storage area. It has seven combos - each measuring 1-1/2 ft. by 2 ft. by 3 ft. tall and one 12 in. by 10 in. stainless steel container. There are shelves on the back wall containing hand brooms, dust pans, tape, plastic bags, light bulbs, and other miscellaneous items (5 ft^3), ladders (2 ft^3), and box of fluorescent light bulbs (2 ft^3). There are 10 lead aprons.

In the hallway between rooms 182A and 183 is a full-size crate (IDC 438). This hallway leads to the tunnel between Building 771 and 776. The tunnel was not only used for passage between buildings but was also used in the late 70s for nuclear material storage. During this time the tunnel was flooded after a water line break. There was a significant area of the southwest end of 771 through which the water ran, resulting in considerable cleanup to remove contamination.

Room 180A and 180C - Category A

Room 180A is labeled as RCRA Unit #90.117.

Line A51, A52, and A53 is a single glovebox line in the southwest corner of the room. The box measures 3 ft. 7 in. tall by 2 ft. 6 in. wide by 12 ft. long. It is painted and leadlined (epoxied on).

The box has eight 50 mil leaded gloves with leadlined steel gloveport covers (eight unpainted and two painted) and one 14 in. bagout port with a leadlined steel port cover.

The box has the following windows: four 2 ft. 7 in. by 1 ft. 2 in. and five 1 ft. 1 in. by 6 in. (all with lead tape on the seams). There are also four 2 ft. by 8 in. reinforced glass in the ceiling.

The box has several plastic bottles with solution and has a material balance card identifying the following: nine 4 liter bottles of IDC 541, each containing 4.2 liters (?); one 4 liter bottle of IDC 541 containing 2.2 liters; one 1 liter bottle of IDC 070 containing 1 liter; one 4 liter bottle of IDC 070 containing 1.86 liters; one 1 liter bottle of IDC 070 containing 0.7 liters; one 4 liter bottles of IDC 508 containing 1.3 liters; one 4 liter bottle of IDC 508 containing 2.8 liters; one 4 liter bottle of IDC 401 containing 4 liters; one 4 liter bottle of nitric acid containing 0.5 liters; nine 4 liter bottles of IDC 527 containing 3.75 liters; and one 4 liter bottle of IDC 527 containing 2.0 liters.

Inside the line is a 6 in. diameter by 26 in. glass precipitation column on a stand. The glovebox floor has some staining and a small amount of residue. There is a shelf on the back wall the entire length of the line. There is a plastic bag with plastic pipettes; a heat gun; rolls of tape, a small Volrath can with hand tools; 500 gr. ascorbic acid; a pint of sulfamic acid; and 500 grams of oxalic acid. There is approximately 1 ft^3 of valves and piping; a 2-1/2 ft. by 18 in. by 1/4 in. thick sheet of **transite**(?). The box has an airlock measuring 1 ft. 7 in. by 1 ft. 2 in. by 1 ft. 6 in. The airlock could not be visually inspected. The airlock is painted and is leadlined (bolted on).

The line has one clean intake filter and one clean exhaust filter. The exhaust line is labeled as having holdup (FU1Z4-079).

The box is labeled as having 3.1 mRem/hour whole body and 5.8 mRem/hour extremity at the box.

The line has one criticality drain which appears o.k.

Attached to the underside of the line are several rheostats (2 ft^3).

There is a metal file cabinet measuring 2 ft. by 1 ft. 8 in. by 4 ft. 5 in. at the west end of the glovebox which is locked.

There is a metal, insulated box on the floor at the southwest end of Line A53 measuring 1 ft. 9 in. by 1 ft. 6 in. by 2 ft. which has paper trash inside.

92

There is a 14 in. diameter by 20 in. tank and pump (sump?) also near the southwest end of the line.

Line A20 measures 3 ft. 2 in. wide by 11 ft. tall by 11 ft. 8 in. long. It has a 2 in. waterwall, no paint, and is not leadlined. It connects into Line A30 at the east end.

The line has fifty four 50 mil leaded gloves with painted 2 in. thick by 11 in. diameter water filled port covers. There is one 2 ft. glovebag with a 2 ft. 2 in. diameter by 2 in. painted water filled port cover.

The line has the following windows: twenty six 1 ft. 6 in. diameter with 1 ft. 9 in. by 1/2 in. thick plexiglas covers; one 14 in. diameter with a 17 in. by 1/2 in. thick plexiglas cover; and four 2 ft. 6 in. by 12 in. reinforced glass in the ceiling.

There is a material balance card showing "0" grams SNM.

Inside the line are two 6 in. by 36 in. filtrate receivers; a 6 in. by 36 in. wash vessel; a 6 in. by 7 ft. precipitator column; two filtrate evaporators; three Ful-Flo filter canisters; one 7-3/4 in. diameter by 3 in. high filter boat; a floor pickup column measuring 4 in. by 24 in.; and three pumps. There is an estimated 1 ft^3 of Tygon tubing; 15 ft^3 of metal; and 2 ft^3 of glass.

There is salt residue on the floor (estimated 1 pint). Some fittings and pipes are rusty, there is residue on some of the equipment braces, and on the window ledges.

There are two exhaust filters which could not be inspected. The exhaust line is labeled has having holdup (#FU1Z4-084 and -082).

The box is labeled as having 3.1 mRem/hour whole body and 5.8 mRem/hour extremity at the box.

There is one criticality drain which appears o.k.

External to the line there is approximately 1 ft^3 of motor, guard, pulley.

Overhead are insulated steam and condensate return lines. The insulation is unlabeled.

Overhead is a pencil tank as follows:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
T1813	1295	5"x7'	7 gal	?	yes	no	PEN	93.132

Line A30 measures 3 ft. 8 in. tall by 3 ft. wide by 6 ft. long. It has no paint and has no lead shielding. It has a 2 in. waterwall. It connects into Line A20 at the west end.

The line has six 50 mil leaded gloves with painted 2 in. thick by 11 in. diameter water filled

93

port covers. There is one 14 in. glovebag with a 16 in. diameter by 2 in. painted water filled port cover.

The box has the following windows: three 1 ft. 6 in. diameter with 1 ft. 9 in. by 1/2 in. thick plexiglas covers and two 2 ft. by 1 ft. reinforced windows in the ceiling.

Inside the line is a pan balance; four 8801 Volrath cans; hand tools, a 1 ft. long metal bar; a 10 in. by 8 in. piece of metal; a 4 liter glass filter flask; a large plastic funnel; and a 4 liter bottle half full of 6M KOH. There is an estimated 2 ft^3 of metal components in the line. There is a small amount of residue on the floor.

The box is labeled as having 1.3 mRem/hour whole body and 1.6 mRem/hour extremity at the box.

There are two horizontal pencil tanks under the line as follows:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D1819	1292	5"x7'	8 gal	?	no	yes	PEN	93.136
D1818	1291	5"x7'	8 gal	?	no	yes	PEN	93.135

There is one intake filter which is dirty.

There is one criticality drain which appears o.k.

Line A31 measures 3 ft. 8 in. tall by 3 ft. wide by 6 ft. long. It has no paint and has no lead shielding. It has a 2 in. waterwall. It connects into Line A30 at the south end.

The line has seven 50 mil leaded gloves with painted 2 in. thick by 11 in. diameter water filled port covers. There is one 9 in. glovebag with a 10 in. diameter by 2 in. painted water filled port cover.

The box has the following windows: three 1 ft. 6 in. diameter with 1 ft. 9 in. by 1/2 in. thick plexiglas covers and two 2 ft. by 1 ft. reinforced windows in the ceiling.

Inside this box are twenty six water shielded storage positions, each 4.75 in. diameter by 8 in. deep with 1/8 in. lead shielding, spaced on 9 in. centers.

The material balance card lists eight 1 liter containers of IDC 070; one 1 liter container of IDC 070 containing 0.5 liters; and two 1 liter containers (no IDC - "waiting sampling"). It is of interest to note that one of the containers is an 8801 Volrath can.

Also in the line is approximately 1/4 ft^3 of Tygon tubing. There are also several plastic tags, a broken knife, and a small amount of debris on top of the storage containers and on the floor at the south end of the line.

Under the box is an 8 in. by 20 in. by 20 in. reservoir and pump which is blanked off (empty?).

94

The line has one criticality drain which appears o.k.

Line A32 measures 8 ft. tall by 6-1/2 ft. long by 3 ft. wide and is connected to Line A31 at the south end. It has no paint and has no lead shielding. It has a 2 in. waterwall. It connects into Line A20 at the west end.

The line has twenty four 50 mil leaded gloves with painted 2 in. thick by 11 in. diameter water filled port covers.

The box has the following windows: twelve 1 ft. 6 in. diameter with 1 ft. 9 in. by 1/2 in. thick plexiglas covers and two 2 ft. by 1 ft. reinforced windows in the ceiling.

Inside the line is a glass cascade dissolver,one R-6 pan filter, stainless steel filter cartridge (closed, potentially with a filter in place), slop pot, and a feed auger. There is a small amount of residue on the floor. There is an estimated 5 ft^3 of metal, pipe, and fittings in the box and approximately 1 ft^3 of glass. The floor is dirty with some debris; there is possible holdup on the filter and in the dissolver. The auger could not be inspected but expect some holdup.

Line A10 measures 3 ft. wide by 6-1/2 ft. long by 8 ft. tall. It has no paint and has no lead shielding. It has a 2 in. waterwall. It connects into Line A20 at the southeast end.

The line has twelve 50 mil leaded gloves with painted 2 in. thick by 11 in. diameter water filled port covers and a 14 in. bagout port with 2 in. thick by 16 in. diameter water filled port cover

The box has the following windows: six 1 ft. 6 in. diameter with 1 ft. 9 in. by 1/2 in. thick plexiglas covers and two 2 ft. by 1 ft. reinforced windows in the ceiling.

This box contains an evaporator and condensor, 4 in. diameter by 4 ft. tall; two Ful-Flo filter canisters; a 4 in. by 24 in. floor pickup pot; two 4 in. by 48 in. filtrate receivers; and a pump. There is an estimated 5 ft^3 of metal components and 2 ft^3 of glass. The floor is covered with an unidentified pink residue and rust particles. There are rusty, corroded components in the box.

The box is labeled as having 1.2 mRem/hour whole body and 4.4 mRem/hour extremity at the box.

There are two exhaust filters which could not be examined. The lines are labeled as having holdup (#FU1Z4-106 and -108).

Under the box are two pencil tanks as follows:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D1817	1290	5"x7'	6 gal	?	no	yes	PEN	93.134
D1816	1289	5"x7'	7 gal	no	no	no	PEN	93.133

There is a pencil tank located against the north wall as follows:

95

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D1807	1293	6"x7'	6 gal	?	no	no	PEN	N/A

This tank is insulated on the outside. The insulation type is not labeled.

North of Line A10 is an overhead tank as follows:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D1803	1294	5"x7'	11 gal	?	yes	no	PEN	93.126

In the northwest corner of the room is a Dunham-Bush 480V water chiller. The chiller unit is located inside a cabinet measuring 4 ft. 6 in. by 3 ft. 4 in. by 4 ft. tall. There is insulated piping external to the unit. The insultation type is not labeled.

There is a control panel in the center of the room measuring 5 ft. wide by 2 ft. 10 in. deep by 8 ft. tall. There is another panel adjacent to it measuring 2 ft. by 2 ft. by 7 ft. tall.

There is a rollaround toolbox measuring 2 ft. 6 in. by 1 ft. 9 in. by 2 ft. 10 in. tall containing approximately 2 ft^3 of hand tools.

In the west side of the room there is a tank farm. The farm is alarmed to entry. Not all tanks were oriented such that they could be examined, consequently complete information could not be obtained:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D1809	1284	3'x7'3"	69 gal	?	no	no	AN	93.129
D1810	1285	3'x7'3"	69 gal	?	no	no	AN	93.130
D1811	?	3'x7'3"	69 gal	?	no	no	AN	?
D1804	?	5"x6'6"	?	?	?	?	PEN	?
D1805	?	5"x6'6"	?	?	?	?	PEN	?

There is approximately 10 ft^3 of sight guages, piping and valves associated with the tanks.

The tank farm is surrounded with a water wall measuring 9 ft. tall by approximately 40 ft. long with a door measuring 3 ft. 10 in. wide by 7 ft. 6 in. tall.

On the west wall is a rack with a fire blanket and two 1 gallon cans of MgO sand.

Against the northwest wall are several ladders with a volume of approximately 8 ft^3.

Room 180B - Category D

This room is an actinide storage vault. The vault is locked and could not be visually inspected. The vault contains sixty one waterwall shielded containers. The area is labeled as "Airborne Radioactivity Area".

Room 180D - Category B

96

Line D-1 is in two sections: one measures 9 ft. 2 in. long by 3 ft. tall by 2 ft. wide on the south end and 12 ft. tall by 3 ft. wide by 3 ft. 4 in. deep. It is a cold glovebox which has never gone hot. The box is painted and leadlined (epoxied on).

The box has two 50 mil leaded gloves and fifty one empty 9 in. glove ports. There is one 12 in. bagout port with no bag.

The box has the following windows: six 1 ft. 8 in. by 1 ft. 1 in.; five 1 ft. 3 in. by 6 in. with leaded glass covers; thirteen 1 ft. 3 in. by 6 in. (four with leaded glass covers); fourteen 2 ft. 4 in. by 4 ft. 1 in. (four with leaded glass covers and one without any glass); and three 2 ft. by 10 in. reinforced glass in the ceiling.

There is an airlock measuring 1 ft. 6 in. cubed. There are a couple of hand tools in the airlock.

The inside of the box is relatively clean. In the bottom of the tall section are three empty styrofoam boxes.

The box has two intake filters which are clean and one exhaust filter. The box is not connected to any building exhaust system.

There is no criticality drain.

There are six pencil tanks behind Line D-1 as follows:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
T5	1300	6"x8'	?	empty	yes	yes	PEN	N/A
T6	1301	6"x8'	?	empty	yes	yes	PEN	N/A
T22	1302	6"x8'	?	empty	yes	yes	PEN	N/A
T21	1303	6"x8'	?	empty	yes	yes	PEN	N/A
T7	1304	6"x8'	?	empty	yes	yes	PEN	N/A
T8	1305	6"x8'	?	empty	yes	yes	PEN	N/A

There is an associated 30 ft^3 of piping, valves, and sight guages.

Line D-2 measures 12 ft. long by 2 ft. 4 in. deep by 3 ft. tall. It is painted and leadlined (epoxied on). The box is plastic-lined.

The box has nine 50 mil leaded gloves with leadlined steel glove port covers; one 9 in. bagout; and one 14 in. bagout with a 16 in. leadlined steel port cover.

The box has the following windows: four 2 ft. 4 in. by 1 ft. 1 in.; four 1 ft. 3 in. by 8 in. ; one 1 ft. 3 in. by 6 in. - all with leaded glass covers. In addition there are three 2 ft 4 in. by 1 ft. reinforced glass and one 1 ft. 8 in. by 1 ft. reinforced glass.

The box is labeled as RCRA Unit #93.153. The material balance card indicates there are four 4 liter containers containing 2 liters each of "surrogate" solutions (H^+/Ce/Fe) with "0" grams

97

SNM. In addition there is a 1 liter squirt bottle of water; two 4 liter bottles with 3.75 liters and 4.0 liters of water; a 4 liter bottle of unidentified solution; a 1/2 pint of "flocculent"; and a 1 gallon plastic bottle of 95% pure magnesium hydroxide. There are two 4000 ml glass filter flasks; one 12 in. by 4 in. plastic filter boat; one 2000 ml glass graduate cylinder; a hot plate with a mesh cage (1/2 ft^3); an 8802 can with MgO; a plastic container with 220 gr. $CaCl_2$; another with KOH; a plastic bag with 1/2 pint of tape and floor sweepings (identified as IDC 330); tape; thermometers; a heat gun; miscellaneous hand tools (1/2 ft^3); a vacuum pump (1/2 ft^3); and a plastic bag with paper filters. There are two shelves in the box, each are rusty and have a small amount of residue.

There is one exhaust filter which is not properly seated. The exhaust line is labeled as having holdup (#FU1Z4-139). There is one intake filter which is clean.

The box is labeled as having 1.6 mRem/hour whole body and 14.2 mRem/hour extremity at the box.

The box has an airlock measuring 1 ft. 6 in. cubed with an intake filter in the door of the airlock.

Under the line are two large rheostats (1-1/2 ft^3). By the east side of the line is a caustic scrubber, pump, and valves (8 ft^3). There is a 480V blower motor measuring 16 in. by 20 in. by 20 in. There is a heat exchanger and pump under the box. The heat exchanger measures 18 in. diameter by 1 ft. tall. The pump has an estimated volume of 1/2 ft^3.

Line D-3 measures 2 ft. wide by 8 ft. 8 in. long by 6 ft. tall. It is painted and leadlined (epoxied on). This is a radioactively cold glovebox.

There is one 18 in. bagout opening on the north end of the box. There are thirty three open gloveports (and one with a boot). There is an airlock measuring 1 ft. 6 in. cubed which is empty.

The box has the following windows: twelve 2-1/2 ft by 11 in.; seventeen 11 in. by 7 in.; and four 2 ft. by 1 ft. reinforced glass in the ceiling.

Inside the box are five 30 gallon Nalgene tanks; 10 ft^3 of rusty unistrut; 1 ft^3 of miscellaneous metal; and a 8 in. diameter by 4 ft. glass column (1 ft^3).

There are two inlet filters which are clean and no exhaust filter.

There is one criticality drain which is empty.

In the southeast corner of the room is a storage cabinet measuring 1-1/2 ft. by 6-1/2 ft by 3 ft. containing stirrers, a balance, and miscellaneous clamps - 2 ft^3.

There are the following drums being stored in the room:

Southeast corner - 5 drums (three IDC 336; one IDC 480; and one IDC 337).

98

There are two pencil tanks located against the south east wall as follows:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
T26	1307	6"x8'	?	empty	yes	yes	PEN	N/A
T25	1306	6"x8'	?	empty	yes	yes	PEN	N/A

In the northeast corner of the room is a drill press measuring 5-1/2 ft. by 2-1/2 ft. by 1-1/2 ft. There are three lead aprons.

There is a metal bench with drawers measuring 8 ft. long by 2-1/2 ft. by 3 ft. On top of the bench is a metal box measuring 2-1/2 ft. by 1-1/2 ft. by 1-1/2 ft. containing cardboard ice cream cartons. In the bench are miscellaneous fittings, padlocks and other metal components (1 ft^3); Tygon tubing (1 ft^3); glassware (1 ft^3); pressure gauges (1/2 ft^3); Teflon blanks and gaskets; and hand tools (1 ft^3). There is a pneumatic diapraghm pump on the bench (1 ft^3); 1/2 ft^3 of firebrick; and a 4 liter bottle containing 3 liters of KW.

There is a locked metal cabinet on the north wall. There is a locked card file measuring 2 ft. 5 in. by 1 ft. 3 in. by 4 ft. 4 in.

Room 180L - Category D

This is a hallway accessing offices and laboratories. There are nine locked cabinets measuring 3 ft. by 6-1/2 ft. by 1-1/2 ft. There is a rollaround toolbox measuring 2 ft. 6 in. by 1 ft. 9 in. by 2 ft. 10 in. containing 4 ft^3 of tools. There is a rack containing a fire blanket and a 1 gallon can of MgO sand. The fire blanket material is unidentified.

Room 180G - Category D

This is a former office. It contains a feed auger (1 ft^3); Canberra instrument (2 ft^3); a metal table on rollers measuring 2 ft. 6 in. by 2 ft. 2 in. by 3 ft. 8 in. with two empty 1 gallon plastic acid containers (empty) and 1/4 ft^3 of glass beakers; a metal chart cabinet measuring 1-1/2 ft. by 3-1/2 ft. by 4-1/2 ft containing 2 ft^3 of blueprints; a five drawer file cabinet measuring 2 ft. 4 in. by 1 ft. 4 in. by 5 ft. tall with 3 ft^3 of paper; a metal desk measuring 5 ft. by 2-1/2 ft. by 2-1/2 ft. containing a quart bag of kitty litter; 1 ft^3 of paper; a few office supplies; and a desk lamp (1/2 ft^3). There is a chair (1 ft^3).

Room 180H - Category D

This is a former office. It contains a bag sealer measuring 1-1/2 ft. by 1-1/2 ft. by 3 ft. tall. There are two videoprobe instruments. One unit (4 ft^3) is on a stand measuring 2 ft. by 2 ft. by 4 ft. The other (6 ft^3) is on a table measuring 3 ft. by 2-1/2 ft. by 2 ft. There is a stand with two lights (1 ft^3) and miscellaneous glassware (1/2 ft^3). There is a cart with equipment (3 ft^3) measuring 1/2 ft. by 3 ft. by 3-1/2 ft. There is a drum cart measuring 2 ft^3.

Room 180I - Category D

This is a former office. It contains two desks measuring 5 ft. by 2-1/2 ft. by 2-1/2 ft. each. There are 3 ft^3 of papers and books. There is 1 ft^3 of tools and miscellaneous items. There is a table measuring 4 ft. by 2-1/2 ft. by 2-1/2 ft. There is a 2 drawer file cabinet measuring 2 ft. 4 in. by 1 ft. 7 in. by 2 ft. 7 in. containing 1/2 ft^3 of paper. There is a computer monitor and computer (3 ft^3); a varistatic pump (1/2 ft^3); and four cardboard boxes of glass pipe (8 ft^3). There is 1 ft^3 of miscellaneous items and 4 ft^3 of chairs.

Room 180K - Category A

Room 180K is designated as RCRA Unit #90.121

Line K-10 is 6 ft. long by 2 ft. 2 in. deep by 3 ft. tall. It is connected to Line K-20 through an airlock. The box is painted and leadlined (epoxied on).

There are four 50 mil leaded gloves with 9 in. leadlined steel gloveport covers and one 12 in. bagout port with a leadlined steel cover.

The box has the following windows: two 2 ft. 4 in. by 1 ft. 1 in. and two 11 in. by 7 in. (all with leaded glass covers). There are two 2 ft. by 1 ft. reinforced glass windows in the ceiling.

The material balance card shows the following: two 4 liter bottles with 4 liters IDC 400; three 4 liter bottles with 4 liters IDC 401; four 4 liter bottles with 3.75 liters IDC 541; one 10 ml sample vial with 0.03 ml(?) of IDC ?; one 4 liter bottle with 2.3 liters IDC 527; and one 4 liter bottle with 2 liters IDC 400.

The box has one criticality drain which appears o.k.

The box is labeled as having 1.2 mRem/hour whole body and 1.3 mRem/hour extremity at the box.

There is one intake filter which is dirty and one exhaust filter which appears clean. The exhaust line is labeled as having holdup (#FU1Z5-241).

The glovebox floor has a thin film of dry brown residue. Inside the line is a heat gun; two empty SNM storage containers with heat detection; a muffle furnace (1/2 ft^3); a pH probe and meter; an 8801 Volrath can; two small ceramic ladles; a small bag of sample vials; a check weight; two ceramic bricks; a small vial pf pH standard solution (pH 6.86); a 3 in. diameter by 6 in. long by 1/8 in. thick lead shield. There is an estimated 2-1/2 ft^3 of metal, including the furnace, inside the box.

Under the box is a Mettler balance with penetration through the bottom of the box. There is a metal cover inside protection the balance. There are two rheostats under the box (1-1/2 ft^3).

There is an airlock connecting Line K-10 and K-20. The airlock measures approximately 1 ft. 2 in. by 1 ft. 2 in. by 1 ft. 6 in. and is painted and leadlined (epoxied on). Inside the airlock is a heat gun, electrical cord, and Tygon tubing (1/2 ft^3 total). The airlock has a window measuring 11 in. by 7 in. Under the airlock is a pump and reservoir measuring approximately 1 ft. cubed.

100

Line K-20 measures 12 ft. long by 3 ft. tall by 2 ft. 2 in. deep. It is painted and leadlined (epoxied on).

The line has eight 50 mil leaded gloves with leadlined steel glove port covers and one 14 in. bagout port with no cover.

The box has the following windows: four 2 ft. 4 in. by 1 ft. 1 in. - with leaded glass covers; four 11 in. by 7 in.; and four 2 ft. by 1 ft. reinforced glass in the ceiling.

There are two exhaust filters whose faces are damaged. The surface on one appears to be crumbling slightly and there is a small amount of residue from it on the floor (asbestos?). The two exhaust lines are labeled as having holdup (#FU1Z5-249, and #3102).

There is one metal Ful-Flo canister in the line containing a dirty filter cartridge; one clean cartridge; two single position storage racks with heat detection; miscellaneous hand tools; two rools of tape; and a glass flask. There is an estimated 1/2 ft^3 of items in this line. There is a shelf attached to the back wall running the length of the box. It has a small amount of residue as well as the floor which also has a small amount of dried sludge.

There is one criticality drain which appears o.k.

There are four rheostats under the line (2-1/2 ft^3).

There is a tank rack located in the center of the room with the following tanks:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
T83	1072	1'6"x2'4"	16 gal	empty	no	no	RR	93.137
T84	1073	1'6"x2'4"	16 gal	empty	no	no	RR	93.138
T85	1074	1'6"x2'4"	16 gal	empty	no	no	RR	93.139
T82	1071	1'6"x2'4"	16 gal	empty	no	no	RR	93.151
T81	1070	1'6"x2'4"	16 gal	empty	no	yes	RR	93.150
T80	1069	1'6"x2'4"	16 gal	empty	no	yes	RR	93.149

There is an estimated 8 ft^3 of associated piping, valves, and sight gauges.

There is a metal table measuring 4 ft. long by 2 ft. 4 in. tall by 2 ft. 7 in. wide. There is a vacuum oven on the table measuring 1 ft. 5 in. by 1 ft. 10 in. by 1 ft. 8 in. Uner the table is a vacuum pump with trap (1 ft^3).

Against the northeast wall of the room is a water wall measuring approximately 18 ft. long by 6-1/2 ft. tall by 1 ft. deep. The wall appears empty of fluid. There are signs which says "contains sodium chromate". This sign has been painted over.

There is a locked card file cabinet against the center of the north wall measuring 2 ft. 1 in. by 1 ft. 8 in. by 4 ft. 4 in. tall.

101

There is a "K-50 Fluorine Box" cabinet measuring 4 ft. wide by 1 ft. 2 in. by 3 ft. tall on the southeast wall. It has an intake filter which appears clean. There is an estimated 1 ft^3 of valves, tubing, and miscellaneous hand tools inside. The cabinet is labeled "no fissile material allowed".

Associated with the cabinet is a flourine control panel measuring 1 ft. by 2 ft. by 3 ft.; a power panel measuring 8 in. by 1 ft. 8 in. by 1 ft. 4 in.; and a power panel measuring 1 ft. by 1 ft. 2 in. by 6 in.

There is one drum in the room as follows:

East wall - 1 drum (one IDC 336)

There is a metal sink in the southeast corner measuring 4 ft. 1 in. by 3 ft. 7 in. by 3 ft. tall. Under the sink are four empty 4 liter plastic bottles; one 4 liter plastic bottle about 1/8 full of KW; one empty 8802 Volrath can; a metal beaker; rolls of tape; miscellaneous tools; and glassware. There is an estimated 1/4 ft^3 of metal; 1/4 ft^3 of glassware; and 1/4 ft^3 of miscellaneous items.

There is a sump (#7) near the east side of the sink.

There is a demineralized water tank above the sink. The tank measures 10 in. diameter by 2 ft. 3 in. tall and is labeled NDT#1311. It appears to be about 1/4 full of water.

Line K-30 is labeled as RCRA Unit #771-2335. It measures 12 ft. long by 3 ft. tall by 2 ft. 2 in. deep. It is painted and leadlined (epoxied on). The line is coated (Teflon?).

The box has ten 50 mil leaded gloves and one 15 in. bagout port.

The box has the following windows: four 2 ft. 4 in. by 1 ft. 1 in. and four 1 ft. 3 in. by 8 in. - all with leaded glass covers. In addition there are four 2 ft. by 1 ft. reinforced glass windows in the ceiling.

The material balance card lists the following SNM: three 4 liter bottles containing 3.75 liters of IDC 500; and one 4 liter bottle containing 2.0 liters of IDC 500.

There is one intake filter which is dirty and one exhaust filter which is clean. The exhaust line is labeled as having holdup (#FU1Z6-L1).

Inside the line, in addition to the 4 liter bottles mentioned above, are: one 4 liter plastic bottle of oxalic acid (approximately 1/2 pint remaining); a small bottle of sodium hydroxide (1/2 pint); approximately 1 pound of oxalic acid; a pint-sized carton labeled "220 grams of calcium chloride"; and a plastic pint-sized carton which says "KOH". There is a small bag of sample vials, two empty 4 liter plastic bottles; a roll of tape; a small pump; two heat guns; a hot plate; a plastic filter canister; and a 4 in. diameter by 2 ft. long glass column. There is an estimated 1 ft^3 of plastic materials and 1 ft^3 of metal. The box floor has approximately 1/2 pint of residue on the floor.

102

The line has an airlock measuring 1 ft. 6 in. cubed which could not be visually inspected.

The box is labeled as having 1.5 mRem/hour whole body and 4.4 mRem/hour extremity at the box.

There is one criticality drain which appears o.k.

There is a rheostat under the box (1/2 ft^3). There is a "vacuum blower" electrical panel under the line measuring 2 ft. by 10 in. by 8 in.

Next to the line is an SNM transfer cart measuring 2-1/2 ft. by 1-1/2 ft. by 2-1/2 ft. There is a small step ladder measuring 4 ft. by 2 ft. by 1-1/2 ft.

There is a vacuum trap measuring 6 in. diameter by 2 ft. tall (unshielded and painted) located above the east end of the glovebox.

There is a tank located at the west end of line K30:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
K30	1312	6"x10'	?	?	no	no	AN	N/A

Note: There is a small viewport on the side of the tank. A small amount of salt holdup is visible in the inside edge of the port.

103

Room 180E - Category A

Room 180E is labeled as RCRA Unit #90.119

B-box E50 and E51 are two B-boxes whose sashes are taped over in the front due to poor air flow. The boxes measure 5 ft. 10 in. long by 2 ft. 8 in. wide by 3 ft. tall. The boxes are not leadlined nor are painted.

The boxes have the following windows: two 2 ft. 9 in. by 1 ft. 6 in.; two 2 ft. 9 in. by 1 ft. 2 in.; and two 2 ft. by 1 ft. reinforced windows in the ceiling.

The boxes are connected by a pass through door. Box E51 has a 5# plastic bag of ferric sulfate (1/2 ft^3); a muffle furnace and mettler balance (1-1/2 ft^3); an 8802 Volrath can; and check weights. There is a small amount of residue on the floor. Box E50 has two hot plates (1 ft^3). The floor is relatively clean.

There is one intake filter which appears slightly dirty. There are two exhaust filters which appear clean. The exhaust lines are labeled as having holdup (#FU1Z6-130 and -131).

There is no criticality drain.

Line E32

Lines E32 and E31 are attached to Line E30.

Line E32 is 9 ft. long by 2 ft. 2 in. wide by 3 ft. tall. It is leadlined (epoxied on) and is painted. There is an extension on top of the box (penthouse) measuring 1 ft. 8 in. long by 1 ft. 2 in. tall by 2 ft. deep. It is not painted nor is it leadlined. The penthouse has two 9 in. boots and a window measuring 1 ft. 8 in. by 2 ft., reinforced.

The box has an airlock measuring 1 ft. 6 in. cubed. The airlock could not be visually inspected.

The main portion of the box has five 50 mil leaded gloves with leadlined steel covers and one 9 in. glovebag with no cover.

The box has the following windows: three 2 ft. 4 in. by 1 ft. 1 in. - with leaded glass covers; one 1 ft. 3 in. by 6 in. - with leaded glass cover; one 1 ft. by 6 in.; and one 5 in. by 10 in.

There is one exhaust filter which could not be visually inspected. The exhaust line is labeled as having holdup (#FU1Z6-120).

There is a material balance card which states "0" grams SNM.

Inside the line are two metal pans with hand tools (1 ft^3); a muffle furnace (1 ft^3); a small drill press (1/2 ft^3); a 1000 ml glass filter flask; a heat gun; electric cord; three empty single position storage containers with heat detection; and approximately 2 ft^3 of metal furnace wells and covers. Connected to the bottom of the box floor is a "tank" whose top is attached to

104

and opens into the box. The "tank" has NDT #1310, measures 1 ft. 8 in. diameter by 1 ft. 9 in. long. The "tank" has no shielding and is not painted. There is a lid covering the opening on the inside of the box. As a result it could not be inspected for potential holdup or other materials.

Under the line is a temperature recorder (1 ft^3) and vacuum pump (1 ft^3).

Line E31 is approximately 5 ft. long by 3 ft. tall by 2 ft. 2 in. wide. It is leadlined (epoxied on) and painted.

The box has four 50 mil leaded gloves with leadlined steel covers and a 10 in. bagout port under the box with no cover.

The box has the following windows: two 2 ft. 3 in. by 1 ft. - with leaded glass covers; two 2 ft. 3 in. by 6 in. - with leaded glass covers; and one 2 ft. 5 in. by 16 in. reinforced in the ceiling.

Inside the box are two hot plates (1 ft^3); a one position storage container with heat detection and hand tools (1/2 ft^3); and a small amount of Tygon tubing. The floor is relatively clean.

Under the box is a vacuum pump (1-1/2 ft^3); a fluorine valve box measuring 6 in. by 2 ft. by 2 ft. 3 in.; and a 1 ft. by 6 in. diameter metal air filter canister.

There is one criticality drain which appears o.k.

Line E30 measures 2 ft. 10 in. wide by 4 ft. tall by 3 ft. deep. It has no lead shielding nor paint.

The box has five 50 mil leaded gloves. Four are located in a 3 ft. 10 in. by 2 ft. 8 in. window - with leaded glass. The box also has the following windows in addition to that above: one 1 ft. by 8 in. - with leaded glass cover; and one 12 in. by 2 ft. 6 in. reinforced.

The box has one exhaust filter which could not be visually inspected. The exhaust line is labeled as having holdup (#FU1Z6-112).

Inside the line is a vacuum melt furnace measuring 2 ft. diameter by 2 ft. 6 in. deep. The inside of the furnace could not be examined. There are approximately 1 ft^3 of furnace molds inside the box. The floor has a small amount of residue.

The box is labeled as having 7.8 mRem/hour whole body and 7.3 mRem/hour extremity at the box.

Under the line is a vacuum pump measuring 2-1/2 ft. by 1-1/2 ft. by 1-1/2 ft. The pump is supported on a small jackstand and lead brick.

In the center of the room is a furnace power supply cabinet measuring 3-1/2 ft. by 3 ft. by 4 ft. tall. There is a lead apron on top of the cabinet.

Next to the power supply is a control panel for the "E20 Furnace" measuring 2 ft. by 2 ft. 1

105

in. by 5 ft. 6 in. tall. Next to it is another control panel measuring 2 ft. 2 in. by 1 ft. 10 in. by 5 ft. 8 in.

Line E11 is connected to Line E10 on the north side of the room. This line measures 6 ft. long by 3 ft. tall by 2 ft. 2 in. deep. It is leadlined (epoxied on) and painted. There is lead tape on the seams.

The box has four 50 mil leaded gloves with leadlined steel covers.

The box has the following windows: two 2 ft. 5 in. by 1 ft. 2 in. - leaded glass covers; two 11 in. by 7 in.; and two 2-1/2 ft. by 1 ft. reinforced in the ceiling.

The box has a material balance card identifying the following: one 4 liter bottle containing 4.1 liters IDC 541; two 4 liter bottles containing 3.9 liters of IDC 400; one 4 liter bottle containing 4.2 liters of IDC 541; two 4 liter bottles containing 1.9 liters of IDC 400; two 2 liter bottles containing 1.9 liters of IDC 400; one 500 ml container with 0.44 liters of IDC 020; one 4 liter bottle containing 1.84 liters of IDC 070; one quart bottle containing 0.141 liters of IDC 400; one quart container with 0.18 liters of IDC 400; and one 4 liter bottle containing 1.95 liters of IDC 400.

Inside the box, in addition to the bottles of solution described above, is a roll of tape and knife. There is a shelf on the back wall which has a small amount of residue. The floor also has a small amount of residue.

The box is labeled as having 4.7 mRem/hour whole body and 3.7 mRem/hour extremity at the box.

There are two intake filters which are dirty. The box has one exhaust filter which appears clean. The exhaust line is labeled as having holdup (#FU1Z6-171).

Inside the line is a marble block measuring 16 in. by 20 in. by 1-1/2 in. thick. There are four ceramic bricks (1/2 ft^3); a single position storage container with heat detection and hand tools (1/2 ft^3); a 3 in. diameter by 1 ft. glass column which appears to have resin in it (?); a quart bag with pipettes and empty sample vials; a small plastic bottle of ferrous sulfamate; a pint plastic carton of unknown powder which is 1/8 in. full; and 1/2 ft^3 of pipes and valves. There is a shelf on the back wall the full length of the line. It has a small amount of residue on it, as does the floor.

There is one criticality drain which appears o.k.

There is a balance under the box with penetration into the box. Under the box are two rheostats (1-1/2 ft^3).

Line E10 measures 12 ft. long by 3 ft. tall by 2 ft. 2 in. wide. This box is in two sections, is leadlined (epoxied on), and painted.

The box has eight 50 mil leaded gloves with leadlined steel covers and one 14 in. bagout port

100

with no cover.

The box has the following windows: four 2 ft. 5 in. by 1 ft. 2 in. - leaded glass covers; four 11 in. by 7 in.; and four 2-1/2 ft. by 1 ft. reinforced glass in the ceiling.

There is one exhaust filter which appears clean. The exhaust line is labeled as having holdup (#FU1Z6-178).

There is one criticality drain which appears o.k.

There are four rheostats under the line with an estimated volume of 3 ft^3.

There are two plastic tanks on the northwest wall as follows:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
D126A	1309	6"x7-1/2'	?	empty	no	no	PEN	N/A
D126B	1308	6"x7-1/2'	?	empty	no	no	PEN	N/A

These tanks are disconnected and appear to be uncontaminated and have never been connected.

Line E20 is located in the southwest corner of the room. It is in two sections.

The first section measures 4 ft. long by 3 ft. tall by 2 ft. deep and is leadlined (epoxied on) and painted.

It has two 50 mil leaded gloves with no covers and a 14 in. bagout port with leadlined steel cover.

This section has the following windows: one 2 ft. 5 in. by 1 ft. 2 in.; one 1 ft. 3 in. by 8 in.; and one 2 ft. 2 in. by 10 in. reinforced in the ceiling.

There is a material balance card showing an 8801 Volrath can containing IDC 057. There is a single position storage container with heat detection containing one 8801 Volrath can.

Inside the line is a hot plate (1/2 ft^3); a lead brick; heat gun and tools (1 ft^3); graphite molds (1/2 ft^3); and an 8801 Volrath can. There is a small amount of residue on the floor.

There is one intake filter which is dirty. There is one exhaust filter which appears clean. The exhaust line is labeled as having holdup (FU1Z6-014)

The box is labeled as having 4.4 mRem/hour whole body and 11.2 mRem/hour extremity at the box.

There is a criticality drain which appears o.k.

There is a balance with penetration through the roof. The balance volume is estimated at 1/2 ft^3.

107

Under this section is a large vacuum pump (2 ft^3). The vacuum pump stand is labeled as externally contaminated (5000 c/m).

The next section has ten 50 mil leaded gloves and four boots.

This section has the following windows: one 2 ft. 6 in. by 3 ft. with four gloves; five 7 in. by 11 in. (one with leaded glass); and five 1 ft. by 1-1/2 ft.

Inside the line is a vacuum furnace measuring 1-1/2 ft. diameter by 3 ft. tall. In addition there is a hoist (1-1/2 ft^3) and sling (1/2 ft^3); and molds (1/4 ft^3). The floor has a small amount of residue.

There is a small vacuum pump (1 ft^3) under the line and a large vacuum pump (5 ft^3).

On the southwest wall is a locked file cabinet measuring 3 ft. by 5-1/2 ft. by 1 ft. 4 in. Against the north wall is a wall cabinet measuring 2 ft. 7 in. by 3 ft. by 1 ft. containing glassware (1/2 ft^3).

At the west end of Line E30 are two lead aprons hanging o the wall. Against the east wall is a rack containing two 1 gallon cans of MgO and a fireblanket (material unknown).

108

Room 178 - Category D

This room is a tool crib.

Inside the crib are the following:

1 - 4 ft. by 1 ft. 7 in. by 7 ft. 7 in. mesh cage with chain hoists and slings (southeast wall) - estimate 5 ft^3
1 - 500# capacity hand cart (2 ft^3) - (east wall)
1 - Lift with pump measuring 2 ft. by 1-1/2 ft. by 5 ft. - (east wall)
1 - Bookcase measuring 2 ft. by 1 ft. by 4-1/2 ft. Estimate 10 ft^3 of books and manuals inside and on top (east wall)
1 - Cart measuring 5 ft. by 2-1/2 ft by 8 in. (east wall)
1 - Cabinet measuring 3 ft. by 1-1/2 ft. by 6-1/2 ft. (east wall)
1 - Spare tool cabinet (locked) measuirng 3 ft. by 1-1/2 ft. by 6-1/2 ft. (northeast corner)
1 - flammable storage cabinet (locked) measuirng 3 ft. 8 in. by 1 ft. 8 in. by 5 ft. (northeast wall)
3 - 5 gallon cans of Amoco Rykon premium grade grease #2
1 - 5 gallon flammable gas can (empty?) - (northeast corner)
1 - 2-1/2 gallon flammable gas can (empty?) - (northeast corner)
1 - 5 gallon pail Anchorlube G-771
1 - plastic bag with 1/2 ft^3 of switches and miscellaneous metal components
2 - plastic bags with 1 gallon can of Weldwood Cove adhesive and 2 qts. of spackling compound
6 - 2 gallon containers of miscellaneous adhesives
3 - 1 ft. by 1-1/2 ft. by 1 ft. cardboard boxes with rubber v-belts
1 - rollaround metal table with tools measuring 2 ft. by 3 ft. by 3 ft. with an estimated 12 ft^3 of hand tools
1 - 2 ft. by 1-1/2 ft. by 2 ft. 10 in. rolling tool cabinet (locked)
3 - 6-1/2 ft. by 3 ft. by 1-1/2 ft. locked storage cabinets (center of room)
3 - 6-1/2 ft. by 3 ft. by 1-1/2 ft. locked storage cabinets (south wall)
Approximately 12 ft^3 of v-belts on the walls
Approximately 1 ft^3 of fluorescent light bulbs against the north wall.
3 - 1-1/2 ft. by 7 ft.long by 3 ft. wide cabinets with small drawers containing flashlights, nuts, bolts, hand tools, and miscellaneous items - 10 ft^3
1 - pegboard wall mounted on north wall containing hand tools, chains, electrical cords (5 ft^3)
1 - wall rack behind cabinet containing gears, blades, hand tools - 10 ft^3
1 - small drill press - 2 ft^3
1 - 3 ft. by 6-1/2 ft. by 1-1/2 ft. locked cabinet in center of room
2 - 3 ft. by 7 ft. by 1-1/2 ft. shelves with drill bits and miscellaneous hand tools - 8 ft^3
1 - plastic bag (taped closed) containing approximately 2 ft^3 of asbestos sheet
2 - floor jacks - 1 ft^3
1 - shelf measuring 3 ft. by 6-1/2 ft. tall by 1 ft. containing dies, punches, tool bits -10 ft^3

109

2 - shelves 3 ft. by 7 ft. by 1 ft. containing tool bits, tape, and miscellaneous items - 8 ft^3

Tygon tubing on wall - 1-1/2 ft^3

Room 179 - Category D

This room is the maintenance machine shop. The room is labeled as RCRA Unit #90.31.

There is approximately 20 ft^3 of scaffolding in the center of the room.

The room contains the following drums:

East side - 18 drums (three IDC 438; four IDC 480; two IDC 336; two IDC 330; one IDC 440; one IDC 338; one IDC 374; one IDC 491; two IDC 337; one "traveler out for review")

South side - 3 drums (three IDC 480*)

North center - Satellite collection #771-1936 (one IDC 533)

- 1 drum (one drum IDC 374)

* Contains PCBs

In the southeast corner of the room is a press 6 ft. by 1 ft. by 3 ft.

Against the southeast wall is a bench measuring 6 ft. long by 3 ft. by 3 ft. with approximately 15 ft^3 of hand tools. On top of the bench are two vices (2 ft^3); an arbor press (1-1/2 ft^3); tool box (1-1/2 ft^3); pump (1 ft^3); tarp (1/2 ft^3); saw (1 ft^3); and a spool of plastic rope (1/2 ft^3).

There is the following equipment:

1 - Rockwell delta bench drill press - 1-1/2 ft. by 1-1/2 ft. by 3 ft. (southeast)
1 - Cabinet under the drill press measuirng 3 ft. by 2 ft. by 2 ft. with 4 ft^3 of tools (southeast)
1 - Cincinnati lathe(440V) - 4 ft. by 4 ft. by 4 ft. (east center)
1 - Heavy metal table - 3 ft. by 3 ft. by 3 ft. (east center)
1 - pivot boom for hoist mounted on wall (1000# capacity) - 5 ft^3 (east wall)
1 - Metal table 6 ft. by 3 ft. by 3 ft. with 7 ft^3 of tools
1 - 2-1/2 gallon steel pot labeled "chlor" - empty except for mesh basket and brush
1 - Bridgeport lathe (230V) measuring 6 ft. tall by 4 ft. by 3 ft. (northeast wall)
1 - Arc welder, gas/tungsten measuring 2 ft. by 3 ft. by 5 ft. with full size argon gas cylinder - (north wall)
1 - DoALL band saw measuring 6 ft. tall by 4 ft. by 4 ft. (north wall)
1 - Marble surface plate measuring 1-1/2 ft. by 2 ft. by 4 in. thick on rolling stand

measuring 1 ft. 8 in. by 3 ft. by 2 ft.

Approximately 40 ft^3 of ladders

1 - Arbor press measuring 2 ft. by 1 ft. by 6 ft. tall (north center wall)

1 - Cabinet measuring 1-1/2 ft. by 3 ft. by 6-1/2 ft. tall with 4 ft^3 of band saw blades

1 - drill press measuring 2 ft. by 4 ft. by 7 ft. tall (north wall)

1 - cabinet (locked) measuring 2 ft. by 3 ft. by 5 ft. (northwest corner)

1 - Hammond grinder measuring 3 ft. by 4 ft. tall by 4 ft. (northwest corner)

1 - bench grinder and stand measuring 2 ft. by 1 ft. by 4 ft. tall (northwest corner)

2 - rollaround tool boxes measuring 1-1/2 ft. by 2 ft. 4 in. by 3 ft. tall with 3 ft^3 of tools. There is a tool box on top (1-1/2 ft^3)

1 - cart (2 ft^3)

1 - LeBlond lathe measuring 3 ft. by 5 ft. by 11-1/2 ft. long (northwest wall)

1 - cabinet measuring 3 ft. by 6-1/2 ft. tall by 1-1/2 ft. with 8 ft^3 of lathe tools and accessories

1 - floor rack with lathe accessories (6 ft^3)

1 - metal cabinet measuring 2 ft. by 2 ft. by 3 ft. tall with 4 ft^3 of lathe accessories inside and on top

1 - rollaround tool crib 3 ft. by 3 ft. by 1 ft. 8 in. with 4 ft^3 of tools; tool box on top (1-1/2 ft^3) and vice (1/2 ft^3)

1 - Lodge & Shipley lathe - 3 ft. by 5 ft. tall by 11-1/2 ft. long (center)

1 - Monarch Lathe measuring 5 ft. by 2-1/2 ft. by 4-1/2 ft tall (center)

1 - Metal cabinet 1-1/2 ft. by 2 ft. by 3 ft. with 3 ft^3 of lathe accessories

1 - Ruger hydraulic hoist 3 ft. by 2 ft. by 5 ft. tall

1 - Baldor grinder 2 ft. by 1 ft. by 4 ft. tall

1 - Belt sander 480V 2 ft. by 2 ft. by 4-1/2 ft tall with a 1-1/2 ft. by 2 ft. by 2 ft. grit collection box

1 - floor grinder 2 ft. by 3 ft. by 2 ft.

1 - drill press 6 ft. by 2 ft. by 3 ft.

1 - Arc welder 3-1/2 ft. by 4 ft. by 2 ft. with full size argon gas bottle

1 - Power hack saw 4 ft. by 2 ft. by 4-1/2 ft. (center)

2 - racks of scrap metal and pipe (20 ft^3)

1 - flammable cabinet (locked) measuring 1-1/2 ft. by 2 ft. by 4 ft. in southwest corner

1 - 5 drawer file cabinet 2 ft. 4 in. by 1 ft. 3 in. by 5 ft. tall containing 8 ft^3 of process line blueprints and vendor catalogues (southeast wall)

1 - cabinet 3 ft. by 2-1/2 ft. by 4 ft. containing 3 ft^3 of plastic bags and paper and 1 ft^3 of miscellaneous items (southeast wall)

1 - 2 drawer file cabinet 1-1/2 ft. by 2 ft. by 2-1/2 ft. containing 2 ft^3 of paper

1 - Metal ring 1-1/2 ft. diameter by 4 in. tallby 1 in. thick on top of the file cabinet(south). There is also an empty plastic bucket and small fiber board drum (1/2 ft^3)

1 - Metal desk measuring 3 ft. by 6 ft. by 3 ft.

Associated with the desk there is approximately 4 ft^3 of Teflon sheet and 3 ft^3 of metal drum lids and rings. There is a vice (1 ft^3), valves (2 ft^3), and 1/2 ft^3 of miscellaneous gloves,tape and plastic bags.

111

Room 179A - Category A

Line 179A is a maintenance glovebox. The line measures 6-1/2 ft. long by 2-1/2 ft. wide by 3 ft. 4 in. tall. The box is painted with lead shielding (bolted on).

The box has eight 50 mil leaded gloves; one 20 in. bagout port with a 22 in. diameter leadlined steel gloveport cover; and one 9 in. bagout port with a leadlined steel gloveport cover.

The box has the following windows: two 2 ft. by 2 ft. 9 in. with leaded glass covers; two 2 ft. 10 in. by 2 ft. 11 in. with leaded glass covers; one 1 ft. 2 in. by 1 ft. with leaded glass cover; and two 1 ft. 8 in. by 1 ft. reinforced in the ceiling.

There is an airlock measuring 1 ft. 6 in. cubed on the south end.

Inside the line there is a heat gun, drill press (1 ft^3), vice (1-1/2 ft^3), a small metal pan, metal tool caddy suspended from the ceiling with tools (1 ft^3), and a hydraulic jack (1 ft^3). The glovebox floor is very dirty with holdup on the floor and window ledges.

There is one intake filter and one exhaust filter, both clean. The exhaust line is not labeled as having holdup.

The box is labeled as having 1.27 mRem/hour whole body and 4.2 mRem/hour extremity at the box.

There is a locked flammable storage cabinet measuring 3-1/2 ft. by 1-1/2 ft. by 5 ft. in the northwest corner.

Room 172 - Category D

This room is labeled as RCRA Unit #90.64 and is posted as a radiation area.

The room is used soley for drum storage and has the following drums:

West side - 17 drums (four IDC 420; six IDC 370; one IDC 391; one IDC 429; two IDC 368; one IDC 398; one IDC 407; one IDC 409)

Next row - 31 drums (three IDC 420; twelve IDC 409; one unidentified; one IDC 444; one IDC 392; three IDC 336; one IDC 405; one IDC 370; one IDC 412; two IDC 419; one IDC 330; one IDC 368; one IDC 414; one IDC 377; one IDC 442)

Next row - 31 drums (one IDC 444; two IDC 420; one IDC 368; two IDC 414; twenty one IDC 409; one IDC 333; two IDC 330; one IDC 405).

Last row - twelve drums (five IDC 409; one IDC 822; one IDC 330; one IDC 394; one IDC 373; one IDC 393; one IDC 405; one IDC 342)

112

Room 149A - Category D

This room us a utility room containing two steam condensate tanks and associated piping.

The tanks are as follows:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
?	0951	4'x6'	?	Yes	no	yes	STD	N/A
?	0952	3'x4'	?	No	no	yes	STD	N/A

There is an associated condensate pump and motor (480V), estimated volume 4 ft^3.

There is an estimated 40 ft^3 of associated valves and piping.

The piping is insulated with **asbestos** (estimated volume 20 ft^3).

There is leaking water in the room. There are several ladders with an estimated volume of 6 ft^3.

Room 149B - Category D

This is the former men's restroom. It contains six shelves approximately 6 ft. tall by 1-1/2 ft. deep by 3 ft. wide each. The shelves contain gloves, booties, bagout bags. There is an estimated 25 ft^3 of plastic and rubber. There is also 2 ft^3 of Tygon tubing, 2 ft^3 of plastic bags and paper on the floor, 2 ft^3 of empty paint and Volrath cans; and 1 ft^3 of rolls of tape.

There is approximately 25 ft^3 of vermiculite and "floor dry" in bags.

Room 149C - Category D

This is the former women's restroom. It is sealed and contains spill and emergency response supplies. It was inaccessible for inspection.

Room 149D - Category D

This room is being used as a storage room. It contains a metal portable shower measuring 4-1/2 ft. by 2-1/2 ft. by 2-1/2 ft.. Inside are miscellaneous hose, a tarp, and wiring with an estimated volume of 4 ft^3. There is a rollaround toolbox measuring 3 ft. by 3 ft. by 1 ft. 8 in.; a small metal cart measuring 2 ft. by 3 ft. by 1-1/2 ft.; two Ludlum carts measuring 3 ft. by 1-1/2 ft. by 1 ft.; four 2 gallon buckets of Sealfas Coating (non-asbestos); and a rectangular tank, NDT#0953 measuring 3 ft. by 2-1/2 ft. by 1-1/2 ft. with a pump (1-1/2 ft^3).

There is insulated piping in the room. The insulation is **asbestos** and the volume is estimated at 6 ft^3

113

Room 176 - Category D (Note: Radioactive Source Storage)

This room is being used as a storage room. It contains two Ludlum carts measuring 2 ft. by 2 ft. by 3 ft.; two computer monitors (2 ft^3); one bag sealer cart measuring 1 ft. by 1 ft. by 3-1/2 ft.; one wall cabinet measuring 4 in. by 1-1/2 ft. by 1-1/2 ft. containing a U^{235} source, 54 uCi, ID#645; one wall cabinet measuring 8 in. by 8 in. by 8 in., leadlined, containing two Pu^{239} sources of 307,000 uCi (ID#597) and 350 uCi (ID#614); an instrument cart measuring 1-1/2 ft. by 2-1/2 ft. by 3 ft.; a bag of rubber gloves and tape (1/2 ft^3); a rolling toolbox measuring 3-1/2 ft. by 1-1/2 ft. by 2 ft. containing 4 ft^3 of tools; three computer monitors (5-1/2 ft^3); one 4 drawer file cabinet measuring 2 ft. 3 in. by 1 ft. 6 in. by 4 ft. 4 in. containing 1 ft^3 of lead, 1/2 ft^3 of electrical cord, and 1 ft^3 of miscellaneous items; two storage racks, each measuring 2 ft. by 1-1/2 ft. by 1 ft. with 1-1/2 ft^3 of plastic gaskets; one storage cabinet measuring 6-1/2 ft by 1-1/2 ft. by 3 ft. containing instrument cables (2 ft^3), towels, gloves, tape and plastic (3 ft^3), and miscellaneous items (1 ft^3); three computer monitors (5-1/2 ft^3); a 4 drawer file cabinet approximately 3 ft. by 6-1/2 ft. by 4 ft. 4 in. containing 8 ft^3 of paper; one cabinet measuring 3 ft. by 6-1/2 ft. by 12 in. containing rubber and metal gaskets, instrument cables (1 ft^3); flashlight batteries; nuts and bolts (2 ft^3); two small lead pucks; two bags of Raschig rings (2 ft^3); and 1 ft^3 of chem wipes.

114

Room 174 - Category A

Room 174 was the oralloy leach facility.

Line 1097 is a vacuum pump box, stainless steel with no lead shielding. The box is approximately 2 ft. by 2 ft. by 4-1/2 ft. It has seven 50-mil leaded gloves and a 12 in. bagout port on top. It contains a pump and Ful-Flo filter. There is rust and green salts on the glovebox floor. The criticality drain is o.k. This box sits on a concrete base with an electric motor on the outside driving the pump. The box has a material balance card stating "0" SNM. The exhaust filter is clean.

The box is labeled as having 1.1 mRem/hour whole body and 1.1 mRem/hour extremity at the box.

Line 53A-1 is approximately 9 ft. 4 in. long by 4 ft. 10 in. high by 3 ft. deep. It has a glass and stainless steel nitric acid evaporator (5 in. diameter by 2 ft. tall - 2 pieces each), a stainless steel condenser (5 in. by 3 ft. tall), a glass slop pot (6 in. diameter by 12 in. tall). There is some residual salt on the inside of the evaporator. There are tools and hoses in the box. There is an estimated 8 ft^3 of glass and 16 ft^3 of stainless steel.

Line 53A-2 is a duplicate of A-1, except that it is a water evaporator. Both A-1 and A-2 have seventeen 50-mil leaded gloves, 1 large glove port, and a sample takeout port. The boxes are lead-lined with 1/3 of the sides covered and 1/2 on the end.

The box is labeled as having 1.1 mRem/hour whole body and 1.1 mRem/hour extremity at the box.

On the north east wall of the room is a vacuum trap and two pencil tanks approximately 6 in. in diameter by 4 ft. long. These tanks could possibly contain liquid in the bottom foot of the tank.

On the north wall are storage racks approximately 16 in. deep by 18 ft. long by 7 ft. tall. These racks, containing 144 positions appear empty but are locked and could not be inspected.

Line 53A-3 is 17 ft. 8 in. long by 5 ft. tall by 42 in. deep. It is a non-leadlined, painted box. This housed spray leaching. The box is a B-box which also contains eleven 50 mil leaded gloves and 1 large bagout port. The box has two large (12 in. by 24 in.) exhaust filters which are very dirty. There are two spray leach hoods (approximately 8 ft^3), tools and piping (approximately 8 ft^3), and a glass slop pot 6 in. in diameter by 2 ft. long in the southeast corner. There is some debris on the floor.

The box is labeled as having 2.1 mRem/hour whole body and 1.6 mRem/hour extremity at the box.

There are two SNM storage cabinets, Z-1 and Z-2 in the middle of the south end of the room. They are six ft. long by 7 ft. tall by 18 in. deep with 24 storage positions which should be empty.

115

Fume Scrubber A-4 is located in the southwest corner of the room. There is approximately 50 ft. of 12 in. diameter pipe to line 53A-3 labeled as having holdup.

There is a 75 ft. long 12 in. diameter pipe to FU-1 which has 1/2 in. salt in the bottom of the pipe where it leaves Tank 1089. This line also has a holdup point label.

There is a 480V refrigeration unit next to Tank 1089 which would fill a 1/2 crate.

Above the refrigeration unit is a water heater to heat water which was used to flush Tank 1089 of salts. This unit is 4-1/2 ft. tall by 6 in. in diameter.

Both of the above tanks are to be emptied as part of the solution stabilization program.

The tanks in the room are summarized below:

Tank#	NDT	Dimension	Volume	Liquid?	Shielding	Painted?	Type	RCRA
1081	1259	30"x36"	92 gal.	empty	no	yes	RR	N/A
1082	1258	30"x36"	92 gal.	empty	no	yes	RR	N/A
1083	1269	18"x36"	40 gal.	empty	no	yes	RR	N/A
1084	1271	18"x36"	40 gal.	empty	no	yes	RR	N/A
1085	1267	6"x18"	26 gal.	empty	no	yes	PEN	N/A
1086	1266	6"x18'	26 gal.	empty	no	yes	PEN	N/A
1087	1265	6"x18'	26 gal.	empty	no	yes	PEN	N/A
1088	1264	6"x18'	26 gal.	empty	no	yes	PEN	N/A
1089	1260	6'6"x8'x2'	-	empty	no	yes	RR	N/A
1095	1256	18"x3'	13 gal.	empty	no	yes	AN	N/A
VT091	-	5"x4'	10 gal.	empty	no	no	-	N/A
1090	1272	16"x2'	21 gal.	empty	no	yes	PEN	N/A

Note: Tank 1089 is a fiberglass reinforced plastic tank which looks to be 1/2 full of KOH salt.

1116

EG&G ROCKY FLATS

INTEROFFICE CORRESPONDENCE

DATE February 15, 1991

TO Ed Schneider, Safeguards Measurements

FROM B.W. Jeffers x7970, D.R. Weier x4194, Statistical Applications

SUBJECT STATISTICAL SAMPLING PLAN RESULTS FOR PLUTONIUM HOLDUP - INCLUDING THE SECOND FLOORS FOR BUILDINGS 771 & 776/777

The following pages give the results obtained from the statistical sampling plan for buildings 371, 374, 559, 707, 771, 774, 776/777 and 779. Given are building totals along with the corresponding 1 sigma uncertainty value. Also, the total amount of grams estimated for each building is broken down by the amount contributed from small and large ducts respectively. Within each category of duct size (small, large) it is again broken down by operation (for small ducts) or room (for large ducts). The total duct length and number of measurements are also broken down in the same manner. The final page gives a plantwide summary of Plutonium amounts by building as well as a total plantwide Plutonium amount along with its uncertainty. The second floor ductwork for buildings 707, 771 and 776/777 are included in these computations. The information on the second floors for buildings 771 and 776/777 were furnished to Statistical Applications by personnel from Safeguards Measurements. This information included the total length of ductwork, the total amount of plutonium heldup in the ductwork and its associated 1-sigma uncertainty value. The results in this memo are identical to the results in a memo to Jerry McKamy dated July 30, 1990 except for the results pertaining to buildings 771, 776/777 and the plant totals.

Note that in some cases, a room in the large duct sampling plan was inaccessible due to duct location or construction. In such cases, Safeguards Measurements provided us with a room that was believed to be similar to the inaccessible room. Hence, the gram loading and associated uncertainty used for the room are identical to those found in the similar room. Please feel free to contact either of us if you have any questions.

"REVIEWED FOR CLASSIFICATION
By DR Weier
Date 2-15-91"

117

BUILDING 771		TOTAL LENGTH(ft.)	MEAS
Estimated Gram Total For Entire Building	= 11073.4 g	6052	696
1 Sigma Uncertainty	= 2050.5 g		
Approximate 95% Confidence Interval	= (6972.4 g, 15174.4 g)		
BREAKDOWN OF BUILDING TOTAL:			
Small Duct Total	= 1804.6 g	2003	34
Large Duct Total	= 9268.7 g	4049	662
BREAKDOWN OF SMALL DUCT TOTAL:			
Lab Total	= 316.6 g	1083	12
Liquid Total	= 2.3 g	539	12
Metal Total	= 28.4 g	15	3
Powder Total	= 1457.3 g	366	7
BREAKDOWN OF LARGE DUCT TOTAL:			
Room 114 Total (*)	= 1891.2 g	308	24
Line 43C Total	= 1734.2 g	41	15
Room 146A Total	= 7.6 g	70	5
Room 149 Total	= 2034.8 g	313	20
Room 153 Total	= 15.0 g	80	5
Room 154 Total	= 1.2 g	20	2
Room 156A Total	= 2.4 g	25	2
Room 159 Total	= 11.6 g	60	4
Room 163 Total	= 9.8 g	97	7
Room 164 Total	= 20.2 g	265	17
Room 165 Total	= 2.7 g	55	4
Room 166B Total	= 2.4 g	20	2
Room 169 Total (*)	= 7.7 g	40	0
Room 172 Total	= 5.4 g	45	3
Room 174 Total	= 14.2 g	139	9
Room 179 Total	= 6.7 g	95	6
Room 179A Total	= 1.6 g	25	2
Room 180A Total	= 3.1 g	40	3
Room 180D Total	= 3.4 g	50	4
Room 180E Total	= 7.6 g	45	3
Room 180K Total	= 4.9 g	30	2
Room 182 Total	= 175.6 g	305	20
Room 182A Total	= 5.2 g	35	3
Room 186 Total (*)	= 1.0 g	15	1
Room 187 Total (*)	= 1.0 g	15	1
Corridor D Total (*)	= 6.8 g	90	0
Corridor E Total (*)	= 132.4 g	230	0
FU-1 Total (2nd Floor) (**)	= 55.0 g	741	107
FU-2 Total (2nd Floor) (**)	= 3090.0 g	586	347
Misc. Total (2nd Floor) (**)	= 14.0 g	169	44